

*Executive Budget Summary*  
*Office of Nonproliferation and National Security*

In recent years, the worldwide proliferation of Weapons of Mass Destruction (WMD) and their missile delivery systems has emerged as one of the most serious dangers confronting the United States. This is a continuing and evolving problem with far-reaching consequences for international security and stability.

At least 20 countries -- some of them hostile to the United States -- already have or may be developing WMD through the acquisition of dual-use technology, indigenous development and production, and/or support from rogue supplier states.

The President has made nonproliferation one of the nation's highest priorities. Based on the unique scientific, technical, analytical, and operational capabilities of the Department and its National Laboratories, the Department of Energy (DOE), through its Office of Nonproliferation and National Security, is uniquely suited to provide leadership in national and international efforts to reduce the danger to U.S. National Security posed by WMD. The Office of Nonproliferation and National Security accomplishes this mission by: (1) **preventing** the spread of WMD materials, technology, and expertise; (2) **detecting** the proliferation of WMD worldwide; (3) **reversing** the proliferation of nuclear weapons capabilities, and (4) **responding** to WMD emergencies.

In order to reduce the international proliferation threat, the Office of Nonproliferation and National Security is focusing its resources and expertise on the following near-term priorities: (1) securing nuclear materials, technology, and expertise in Russia and the Newly Independent States; (2) maintaining effective protection, control, and accountability of nuclear materials, technology, and expertise in the United States; (3) limiting weapons-usable fissile materials worldwide; (4) enabling transparent and irreversible nuclear reductions; (5) supporting the implementation of a Comprehensive Test Ban Treaty (CTBT); (6) developing and integrating a program for preventing, detecting and responding to nuclear terrorism and smuggling; (7) controlling nuclear exports; (8) developing new technologies against emerging chemical and biological threats; and (9) strengthening the nuclear nonproliferation regime.

Some of our most important international activities include: conducting the government-to-government and laboratory-to-laboratory programs of cooperation between U.S. nuclear experts and their counterparts at nuclear facilities and institutes in the former Soviet Union to improve materials protection, control and accountability; assisting Russia and the Newly Independent States in establishing and enhancing nuclear material export control systems; developing technologies and systems to detect the proliferation of WMD, to monitor and verify existing treaties, as well as the CTBT; working in cooperation with the Democratic Peoples Republic of Korea (DPRK) to implement long term maintenance of water treatment and nuclear fuel canning equipment in the DPRK in order to freeze the North Korean nuclear weapons program and to enable the application of effective IAEA safeguards; working with the private sector to engage WMD weapons scientists, engineers, and technicians in the former Soviet Union in activities which reduce the proliferation threat; and providing technical support for long-term monitoring of Iraqi facilities and other nuclear safeguards and emergency programs of the International Atomic Energy Agency (IAEA). In addition, we are providing unique and in-depth technical, arms control, intelligence, research and technology expertise as part of the U.S. Government's integrated efforts to implement a CTBT. We also provide emergency management experts to assist other foreign governments in reviews of their emergency preparedness

plans and capabilities. DOE continues to contribute to National Intelligence Estimates and to support the Non-Proliferation Center in assessing the activities of emerging nuclear weapons states and terrorist organizations (the demand side of the equation) and nuclear supplier states or other sources, such as theft and smuggling of nuclear materials (the supply side of the equation).

In concert with our international activities, we are responsible for wide-ranging activities to accomplish nonproliferation and national security goals in the United States. These activities include: directing a rigorous safeguards and security program for the entire Department of Energy complex, thereby ensuring the demonstrated security of our own nuclear materials, technology and expertise; declassifying millions of DOE documents while protecting critical information that has the potential to facilitate the proliferation of weapons of mass destruction; managing and improving the Department's emergency management and response capability and providing assistance to other government agencies as well as state, tribal, and local governments; and maintaining a security investigations and reinvestigations program for both Federal and contractor employees of the Department. DOE also provides technical, analytical, policy and implementation support to the efforts of the nation's policy community to deal with nonproliferation issues.

In FY 1999, the Department will achieve its nonproliferation and national security priorities by: (1) accelerating efforts to provide enhanced materials protection, control and accountability for fissile materials in Russia and the Newly Independent States; (2) cooperating with authorities in the former Soviet Union to redirect intellectual capital through the science and technology centers, the Initiatives for Proliferation Prevention Program, and export controls; (3) enhancing efforts to detect and stem the proliferation of chemical and biological weapons and to respond to potential terrorist use of such weapons (4) concentrating efforts toward limiting the production and use of weapons-usable fissile materials in the civil sector by reducing and eventually eliminating the use of highly enriched uranium and promoting alternatives to the civil use of plutonium, expansion of the Reduced Enrichment for Research and Test Reactors (RERTR) Program, and by purchasing, where appropriate, at-risk weapons-usable nuclear materials; (5) providing necessary research, technology development, analysis, and training as part of the U.S. Government's efforts to complete and implement a CTBT; (6) developing and implementing an integrated approach to nuclear smuggling, terrorism, and emergency response; (7) enabling transparency and irreversibility in the nuclear weapon dismantlement process; (8) strengthening the international nonproliferation regime through measures which include our efforts in North Korea, negotiation of an international fissile material cutoff convention and cooperation with and support for the IAEA safeguards programs, including the facilitation of IAEA inspections in the United States. The Department will also maintain an emergency management program for response to domestic hazards and to provide assistance internationally. Finally, in support of all of the Department's nonproliferation capabilities, we will continue to develop technologies and systems for detecting, characterizing, and monitoring proliferant activities worldwide.

Rose E. Gottemoeller  
Director  
Office of Nonproliferation and  
and National Security

**DEPARTMENT OF ENERGY**  
**FY 1999 CONGRESSIONAL BUDGET REQUEST**  
**OTHER DEFENSE ACTIVITIES**  
(Tabular dollars in thousands, Narrative in whole dollars)

**NONPROLIFERATION AND VERIFICATION RESEARCH AND DEVELOPMENT**

**PROGRAM MISSION**

The Department of Energy (DOE) Nonproliferation and Verification Research and Development Program is dedicated to conducting applied research, development, testing, and evaluation of science and technology for strengthening the United States response to the threats to national security and to world peace posed by the proliferation of nuclear weapons and special nuclear materials. Activities center upon the development, design, and production of operational sensor systems needed for proliferation detection, treaty monitoring, nuclear warhead dismantlement initiatives, and support to intelligence activities. In FY 1999, the Department will leverage its considerable nuclear nonproliferation research and development base and resident chemical and biological sciences expertise by applying these capabilities to stem chemical and biological weapons proliferation. DOE will continue to focus and integrate existing and new research and development activities to counter nuclear smuggling and terrorism. Included for all programs is support for the timely transfer of prototyped and tested systems to operational users, especially other U.S. Government agencies. The program also supports subsequent commercialization of technologies and contributes to the Small Business Innovation Research Program.

The GOAL of the Nonproliferation and Verification Research and Development Program is to:

Enhance U.S. National Security through customer-driven research and development, with emphasis on the science and technology needed for preventing materials diversion, for meeting U.S. treaty monitoring goals, and for early detection and characterization of nuclear, chemical, and biological weapons proliferation.

The OBJECTIVES related to this goal are:

**PROGRAM MISSION - NONPROLIFERATION AND VERIFICATION RESEARCH AND DEVELOPMENT (Cont'd)**

1. Develop and demonstrate technologies to address chemical and biological weapons proliferation and terrorism.
2. Develop and demonstrate technologies capable of detecting and deterring the diversion and smuggling of nuclear weapons and special nuclear materials.
3. Develop and demonstrate technologies for: nuclear materials protection, control, and accounting; counter terrorism and law enforcement forensics; and intelligence support.
4. Provide technical capabilities for monitoring and verifying nuclear treaties using sensors and algorithms which detect, locate, identify, and characterize nuclear explosions underground, underwater, in the atmosphere, and in space.
5. Develop and demonstrate the technologies needed to remotely detect the early stages of proliferant nations' weapons development programs.

#### PERFORMANCE MEASURES:

1. Meet 90% of customer need dates for delivery of technologies for proliferation detection and arms control monitoring operational missions.
2. Develop five new sensors/concepts which increase the national capability for early detection of the proliferation of weapons of mass destruction.
3. Develop sensors that increase sensitivity by 50% and reduce processing time from months to weeks to improve confidence in worldwide nuclear explosion surveillance capability and help the U.S. Government monitor a Comprehensive Test Ban Treaty (CTBT).
4. Develop three new sensors which improve U.S. Government and international technical capabilities to detect, deter, and interdict the diversion and trafficking of nuclear materials.

#### SIGNIFICANT ACCOMPLISHMENTS AND PROGRAM SHIFTS:

- Launch of the Fast On-orbit Recording of Transient Events (FORTE) small satellite. Following launch aboard a Pegasus-XL launch vehicle, FORTE will demonstrate radio frequency technologies for nuclear test ban treaty monitoring for the next generation Global Positioning System Satellites. FORTE will also provide scientists information on lightning and the structure of the ionosphere for possible use in weather forecasting and understanding the relationship of the ionosphere to environmental phenomena affecting the Earth.

#### **PROGRAM MISSION - NONPROLIFERATION AND VERIFICATION RESEARCH AND DEVELOPMENT (Cont'd)**

- Memorandum of Understanding (MOU) with Federal Bureau of Investigation (FBI) on Science and Technology. The DOE and the FBI are entering into a new relationship which will strengthen the U.S. government's forensic and technical capability by fusing together the nation's preeminent technical community with the premier U.S. law enforcement agency. The goal is to "advance the science of forensics and technology within the FBI to the highest possible quality."
- Initiated a research and development program to address the threat of chemical and biological weapons proliferation. This applies the DOE expertise in chemical and biological sciences and The Human Genome project to detection, characterization, and decontamination of chemical and biological threat agents, as well as redirecting and extending existing remote chemical species detection programs that address nuclear proliferation by expanding their scope to address chemical and biological weapons signatures.
- Continued development of synthetic aperture radar (SAR) autofocus algorithms, sensitive change detection algorithms, and interferometric SAR (IFSAR) terrain mapping algorithms for treaty monitoring purposes, and provided the Department of Defense (DoD) with algorithms for their use in battle damage assessment and terrain elevation determination.
- Launched and tested a Multispectral Thermal Imager small research satellite to demonstrate and evaluate space-based multispectral and thermal imaging technology for nonproliferation treaty monitoring and other national security and civilian applications.
- Provided continuous worldwide monitoring for atmospheric nuclear explosions with sensors designed, developed, and produced by the Nonproliferation and Verification Research and Development Program and deployed upon the Global Positioning System satellite constellation. Continued to shift emphasis from Cold War Nuclear Explosion Detection (NUDET) mission to new emerging nuclear test threat from threshold states. Working with US Air Force, implemented a replenishment schedule to ensure future Global Positioning System payloads address new threats.
- Continued to develop improved laser remote sensors (Lidars) for remote optical detection and characterization of multiple chemical effluents related to proliferation activities. Field demonstrated airborne operations of an advanced long-range laser remote sensor. Field demonstrated operations of short-range portable lidars. Applied extensive signature experience from nuclear weapons proliferation to chemical and biological weapons proliferation signatures. Modified lidar systems that detect signatures of nuclear proliferation for use against chemical and potentially biological weapons signatures.

**PROGRAM MISSION - NONPROLIFERATION AND VERIFICATION RESEARCH AND DEVELOPMENT (Cont'd)**

- Developed and field tested a passive spectral imaging system for remote detection and characterization of multiple chemical effluents related to proliferation activities. Conducted experimentation and modeling to extend this capability beyond nuclear signatures to chemical and potentially biological proliferation signatures.
- Implemented fourth year of directed responsibility for Comprehensive Test Ban Treaty (CTBT) research and development for underground, underwater, atmospheric, and space nuclear detonation detection.
- Conducted a comparison of U.S. laboratory capabilities to strengthen interagency response to threats from diverted nuclear materials and to direct development of infield forensic technologies.
- Initiated a comprehensive research and development effort which integrates and focuses new projects with ongoing efforts to counter nuclear smuggling and terrorism. This program will be conducted in partnership with the law enforcement and intelligence communities.

# NONPROLIFERATION AND VERIFICATION RESEARCH AND DEVELOPMENT

## PROGRAM FUNDING PROFILE

(Dollars in Thousands)

Sub-program	FY 1997 Current Appropriation	FY 1998 Original Appropriation	FY 1998 Adjustments	FY 1998 Current Appropriation	FY 1999 Request
Deterrence and Detection Technologies	\$ 60,962	\$ 60,493	-	\$ 60,493	\$ 60,493
Treaty Monitoring	81,257	81,257	-	81,257	81,257
Proliferation Detection	69,700	68,250	-	68,250	68,250
Subtotal	<u>\$ 211,919</u>	<u>\$ 210,000</u>	<u>-</u>	<u>\$ 210,000</u>	<u>\$ 210,000</u>
Adjustment a/	<u>5,242</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
TOTAL, Research and Development	<u>\$ 206,677</u>	<u>\$ 210,000</u>	<u>\$ -</u>	<u>\$ 210,000</u>	<u>\$ 210,000</u>

a/ Appropriation Transfer to Energy Supply R&D for SBIR/STTR Programs.

ARMS CONTROL AND NONPROLIFERATION

(Dollars in Thousands)

PROGRAM FUNDING BY SITE

Field Offices/Sites	FY 1997 Current Appropriation	FY 1998 Original Appropriation	FY 1998 Adjustments	FY 1998 Current Appropriation	FY 1999 Request
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Albuquerque Operations Office	\$ 29,600	\$ 29,600	\$0	\$ 29,600	\$ 15,000
Los Alamos National Lab	39,631	45,886	0	45,886	55,086
Pantex	625	825	0	825	1,825
Sandia National Labs	35,895	43,430	0	43,430	49,230
Chicago Operations Office					
Argonne National Lab	9,805	10,640	0	10,640	10,640
Brookhaven National Lab	6,125	12,731	0	12,731	13,346
New Brunswick Lab	260	260	0	260	260
Oakland Operations Office	1,218	1,218	0	1,218	1,218
Lawrence Livermore National Lab	24,918	32,353	0	32,353	37,353
Oak Ridge Operations					
Oak Ridge National Lab	21,515	26,180	0	26,180	31,180
Richland Operations Office					
Pacific Northwest National Lab	17,260	25,005	0	25,005	29,005
Savannah River Operations Office	4,375	4,575	0	4,575	4,575
Nevada Operations Office	290	290	0	290	290
Washington Headquarters	3,492	1,607	0	1,607	7,892
All Other Sites	21,235	0	0	0	0
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Subtotal	\$ 216,244	\$ 234,600	\$0	\$ 234,600	\$ 256,900
Adjustment	0	0	0	0	0
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TOTAL	<u>\$ 216,244</u>	<u>\$ 234,600</u>	<u>\$0</u>	<u>\$ 234,600</u>	<u>\$ 256,900</u>

## NONPROLIFERATION AND VERIFICATION RESEARCH AND DEVELOPMENT

### DETERRENCE AND DETECTION TECHNOLOGIES

(Tabular dollars in thousands, narrative in whole dollars)

#### I. Mission Supporting Goals and Objectives:

Develop and demonstrate advanced man-portable and infield analysis technologies and concepts to support arms control and national security programs to reduce the threat of nuclear weapons and to counter the threat from all weapons of mass destruction. Material Detection research and development includes sensor development, advanced data processing, and systems integration to support monitoring requirements for bilateral and multilateral nonproliferation agreements and treaties. The program develops verification and transparency technology for nuclear warhead dismantlement, advance concepts for international safeguards over excess US fissile materials, and advanced analytical techniques to detect the diversion or use of nuclear materials and other weapons of mass destruction.

The program exploits the national laboratory capability in chemical and biological sciences in particular the skills and resources supporting the Human Genome Project coupled with proliferation knowledge from nuclear arms control activities to counter the proliferation of chemical and biological weapons. Starting in FY1997, this comprehensive program, coordinated with other federal agencies, will assess the biological and chemical weapons threat and will pursue a coordinated research and development program to apply advanced analytical methods and emerging detection technologies to detect and counter the threat from chemical and biological weapons.

In FY 1998, new initiatives will focus research and development on technologies to counter nuclear smuggling and terrorism. Existing research to develop sensors and infield analytical tools will be accelerated to demonstrate and make available advanced and unique technologies to the US law enforcement and intelligence communities.

All of these efforts are focused on near term deliverables of prototype detection technologies and analytical methods for support of both current and future U.S. Government policies and initiatives. The program is driven by both evolving and long-standing priorities from the arms control, intelligence, and law enforcement communities. This program brings the unique technical expertise and facilities of the DOE national laboratories to bear on major nonproliferation, counterproliferation, and arms control problems and opportunities facing the nation.

**II. Funding Schedule:**

<u>Program Activity</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>\$ Change</u>	<u>%Change</u>
Total, Deterrence & Detection Technologies	\$ 60,962	\$ 60,493	\$ 60,493	\$ 0	0%

**III. Performance Summary - Accomplishments:**

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
● Develop and commercialize cooperative in-field analysis technologies and remote monitoring systems to enhance international safeguards, to build confidence for bilateral and IAEA agreements, and to support arms control requirements.	\$9,800	\$7,500	\$7,500
● Develop advanced radiation detection technologies and systems for national security programs supporting counterterrorism, nonproliferation, and arms control initiatives. Develop alternate safeguards and warhead dismantlement transparency technologies to support departmental initiatives in the control and accountability of Russian and FSU fissile materials.	7,062	7,100	7,100
● Develop the technical means to conduct broad area search to detect underground structures in support of Department of Defense and Intelligence Community needs.	7,700	3,993	3,993
● Develop micro-sensor detection technologies and advanced prototype for nonproliferation applications for use by the Intelligence Community.	7,500	7,500	7,500

<ul style="list-style-type: none"> <li>● Develop technologies for detecting/preventing nuclear smuggling. The focus will be on technologies by law enforcement agencies. Continue to develop improved field and laboratory capabilities for nuclear forensic analysis of small samples in support of Intelligence and Law Enforcement Communities.</li> </ul>	15,400	17,400	17,400
<ul style="list-style-type: none"> <li>● Develop and demonstrate prototype instruments to detect chemical and biological threats at sub-lethal levels, develop transport models for fate analyses studies and to investigate decontamination technologies.</li> </ul>	<u>13,500</u>	<u>17,000</u>	<u>17,000</u>
Total Deterrence and Detection Technologies	\$60,962	\$60,493	\$60,493

## NONPROLIFERATION AND VERIFICATION RESEARCH AND DEVELOPMENT

### TREATY MONITORING

(Tabular dollars in thousands, narrative in whole dollars)

- I. **Mission Supporting goals and Objectives:** Develop and demonstrate technologies for monitoring international treaties banning the explosive testing of nuclear devices. Develop and field sensors and algorithms, which will, in a timely manner, detect, locate, identify, and characterize nuclear explosions which might occur underground, underwater, in the atmosphere, or in space.

The Office of Research and Development (R&D) Treaty Monitoring program is one of the Department of Energy's longest standing nonproliferation efforts. The concept of satellite-borne nuclear explosion surveillance came about during interagency discussions from 1959 to 1962, leading to deployment of the original Vela satellite explosion sensors. During the 38 years of this program, over 60 Department of Energy satellite payloads have been launched, using U.S. Air Force and National Aeronautics and Space Administration boosters. The national need for worldwide cognizance of nuclear explosions that might occur is as important as ever in this time of high nuclear proliferation concern.

On August 11, 1995 President Clinton stated, "One of my administration's highest priorities is to negotiate a Comprehensive Test Ban Treaty (CTBT).... I am committed to pursuing a comprehensive research and development program to improve our treaty-monitoring capabilities and operations." National responsibility for executing CTBT R&D was consolidated in this Department of Energy program in 1993. On September 24, 1996, President Clinton signed the CTBT as soon as it was open for signature. The DOE CTBT R&D program is now focused on supporting the Preparatory Commission and the ratification process which precedes treaty entry into force.

The CTBT R&D goal is to develop and demonstrate technologies for monitoring the CTBT. This research and development program, in preparing for both international and U.S. national monitoring of a CTBT, addresses technologies for monitoring for underground, underwater, atmospheric, and space-based nuclear explosions.

## **II. Funding Schedule:**

<u>Program Activity</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>\$ Change</u>	<u>%Change</u>
Total, Treaty Monitoring	\$ 81,257	\$ 81,257	\$ 81,257	\$ 0	0%

## **III. Performance Summary - Accomplishments:**

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
<ul style="list-style-type: none"><li>Develop and demonstrate technologies for monitoring for underground, underwater, atmospheric, and space-based nuclear explosions for both international and U.S. national monitoring of a CTBT. Characterize regional seismic signals from industrial and natural sources to increase the reliability of analysis to distinguish industrial seismic activity from potential nuclear weapons testing. Field test fully automated, near-real-time radionuclide sampler/analyzer and initiate commercialization. Develop location and performance specifications for a fixed, cabled hydroacoustic system. Select wide-band infrasound sensors and evaluate proposed network detection capabilities.</li></ul>	\$31,000	\$31,000	\$31,000

<ul style="list-style-type: none"> <li>Develop and produce satellite-based nuclear detonation detection sensor systems for independent US capability to monitor compliance with nuclear test ban treaties. Produce, deliver, and operationally support four Global Positioning System (GPS) satellite nuclear explosion detection flight systems per year. Develop and demonstrate the next generation of satellite-based optical, electromagnetic pulse, and particle sensor systems for detecting nuclear explosions in space and in the atmosphere. Launch the Fast On-orbit Recording of Transient Events (FORTE') small satellite demonstrating next generation techniques for detecting and characterizing electromagnetic pulses from nuclear explosions in the atmosphere. Develop small, satellite-based sensor package to be employed on the replacement to the Defense Support Program satellite for detecting nuclear explosions in space.</li> </ul>	<u>50,257</u>	<u>50,257</u>	<u>50,257</u>
Total Treaty Monitoring	\$81,257	\$81,257	\$81,257

## NONPROLIFERATION AND VERIFICATION RESEARCH AND DEVELOPMENT

### PROLIFERATION DETECTION

(Tabular dollars in thousands, narrative in whole dollars)

**I. Mission Supporting Goals and Objectives:** Develop and demonstrate innovative proliferation detection technologies including passive and active (laser-based) electro-optical remote chemical detection, space-based multi spectral and thermal imagery, and advanced data analysis. The multi laboratory and joint interagency projects within this subprogram area are comprehensive, end-to-end research and development activities that (1) examine the nature of proliferation targets to determine remotely observable signatures, (2) conduct phenomena modeling to understand the environment's effects on the observables and how these effects can be overcome, (3) develop sensor systems to remotely measure the observables, (4) and develop exploitation techniques to interpret the data and produce meaningful information.

These programs are closely coordinated with other activities within the government, and continuing in FY 1999, the methodology and experience that has resulted in significant advances in the nuclear proliferation mission area, will be applied to the chemical and biological weapons proliferation arena. By increasing the scope of projects in this subprogram area to address chemical and biological weapons proliferation in addition to nuclear proliferation, research required to understand the signal strength and signature of CW/BW observables, modify the sensors, and interpret the data will be conducted. Many of the sensor systems designed to detect chemical signatures from nuclear weapons activities can be used to detect chemical signatures from chemical and potentially biological weapons activities. New remote sensors to detect biological observables will be developed.

### **II. Funding Schedule:**

Program Activity	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>\$ Change</u>	<u>%Change</u>
Total, Proliferation Detection	\$ 69,700	\$ 68,250	\$ 68,250	\$ 0	0 %

### III. Performance Summary - Accomplishments:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
<ul style="list-style-type: none"><li>Conduct an airborne test of an advanced mid-wave infrared lidar system which will be able to detect nuclear and chemical weapon proliferation effluents from very long range. Perform ground-based field tests of laser remote sensing systems to extend system performance beyond current state of the art, and continue signature work on excursions from baseline scenarios to broaden the performance envelope of remote chemical detection. Deliver to a customer a prototype of a small portable short range chemical detection lidar system for nonproliferation and counterproliferation applications. Initiate design of a short-range chemical detection lidar system on board an Unmanned Aerial Vehicle which will allow deployment of chemical detection capability to areas of need by Intelligence Community and Military forces.</li></ul>	\$26,970	\$27,000	\$28,176
<ul style="list-style-type: none"><li>Design and deliver an integrated prototype system of complex algorithms and methodologies to enhance the information content of interferometric synthetic aperture radar (IFSAR) systems for terrain mapping and three dimensional modeling. Design and deliver advanced software/hardware for adaptive circuitry and complex modeling to support nonproliferation sensor systems.</li></ul>	9,570	8,300	12,250

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
<ul style="list-style-type: none"> <li>Complete development, then launch and operate the Multispectral Thermal Imager (MTI) small satellite, which will demonstrate and evaluate multispectral and thermal imaging technologies for the passive, noncooperative detection and characterization of proliferant activities. Continue coordination with arms control, military, and other users of MTI data to refine test plans and operations concepts.</li> </ul>	23,400	20,950	16,024
<ul style="list-style-type: none"> <li>Complete fabrication of an airborne, high-spectral resolution imaging spectroradiometer for passive detection of nuclear proliferation chemical effluents and field test this system as part of interagency effort to develop this technology. Apply chemical signatures work conducted by DOE lidar programs to passive imaging detection and characterization of nuclear, chemical, and biological weapons proliferation activities.</li> </ul>	9,760	12,000	9,300
<ul style="list-style-type: none"> <li>Develop advanced remote sensing prototypes based on technology developed in existing long term research programs. These prototypes will demonstrate on a limited basis, all operational characteristics of a future world wide proliferation monitoring sensor system.</li> </ul>	<u>0</u>	<u>0</u>	<u>2,500</u>
Total Proliferation Detection	\$69,700	\$68,250	\$68,250

## NONPROLIFERATION AND VERIFICATION RESEARCH AND DEVELOPMENT

### EXPLANATION OF FUNDING CHANGES FROM FY 1998 TO FY 1999:

**Proliferation Detection:** Related programs have been consolidated by mission application groups to better coordinate and manage research and development activities. Proliferation Detection is a consolidation of projects that previously were components of the former Remote Sensing Systems and Advanced Systems subprograms.

The FY 1999 funding decreases in the Multispectral Thermal Imager (MTI) reflects the completion of a cost-intensive hardware build phase of the project. Design, fabrication, and testing of the MTI satellite will complete in FY 1999.	-\$4,926
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The high-spectral resolution imaging spectroradiometer program costs decrease due to the completion of a cost-intensive hardware procurement phase of the project.	-2,700
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The Chemical Analysis by Laser Interrogation Of Proliferation Effluents program costs increase due to initiating detailed design of a UAV system and actual flights of an advanced lidar aboard the ARGUS aircraft.	+1,176
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Advanced prototype sensors will be developed based on earlier successful remote sensor research programs. Concept definition work will start in FY 1999.	+2,500
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Increase due to additional funding applied to Chemical and Biological Weapons nonproliferation initiative and to further exploit radar advances for nonproliferation missions.	<u>+3,950</u>
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Total Funding Change, Proliferation Detection	\$ 0
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DEPARTMENT OF ENERGY  
FY 1999 CONGRESSIONAL BUDGET REQUEST  
OTHER DEFENSE ACTIVITIES  
(Tabular dollars in thousands, Narrative in whole dollars)

ARMS CONTROL AND NONPROLIFERATION

PROGRAM MISSION

The Arms Control and Nonproliferation Program is the focal point within the Department for activities which support the President's arms control and nonproliferation policies, goals and objectives as well as statutorily-mandated activities. The major functional areas of the program include: Policy and Analysis; Reduced Enrichment Research and Test Reactor (RERTR); International Safeguards; Export Control Operations; Treaties and Agreements; International Security; and International Materials Protection, Control, and Accounting (MPC&A). The program provides leadership and representation for the Department in the U.S. Government's interagency process, and for the U.S. Government in the national and international arms control and nonproliferation communities and organizations.

The GOAL of the Arms Control and Nonproliferation Program is to:

Reduce the threat of nuclear proliferation by integrating and orchestrating the Department's assets and efforts, including those of its national laboratories and contractors, in providing major policy and technical support to the U.S. Government's foreign policy and national security objectives in the areas of arms control and nonproliferation, and to the international arms control and nonproliferation communities. The Department provides policy and technical leadership for national and global nonproliferation to reduce the continuing and new nuclear dangers to the world.

The OBJECTIVES related to this goal are:

1. Secure Nuclear Materials and Expertise in Russia, the Newly Independent States (NIS), and the Baltics.
2. Limit Weapons-Usable Fissile Materials.
3. Establish Transparent and Irreversible Nuclear Reductions.

4. Strengthen the Nuclear Nonproliferation Regime.
5. Control Nuclear Exports.

#### PERFORMANCE MEASURES:

1. For Russia, the NIS and the Baltics, continue MPC&A upgrades at the 50-plus facilities which use or store weapons-usable nuclear materials and maintain schedule to complete all upgraded materials protection, control and accounting systems by the end of calendar year 2002.
2. Complete the ratification and implementation of the Comprehensive Test Ban Treaty (CTBT), including supporting U.S. responsibilities for on-site inspections at DOE facilities.
3. Replace unilateral nuclear export controls with multilateral controls.
4. Under Initiatives for Proliferation Prevention, engage 3,500 weapons scientists, engineers and technicians in peaceful projects at their institutes.
5. Maintain integrity of long term storage and maintenance of the spent fuel canisters prior to removal from North Korea.
6. Place an additional 13 metric tons of U.S. excess nuclear weapons material under IAEA inspection; develop IAEA verification program for Russian excess material to be placed in Mayak Fissile Material Storage Facility.
7. All completed NIS facilities will be transitioned to International Safeguards.

#### SIGNIFICANT ACCOMPLISHMENTS AND PROGRAM SHIFTS:

- As a result of the indefinite extension of the Nuclear Nonproliferation Treaty (NPT), activities were refocused to ensure principles and objectives of the NPT are fulfilled.
- Provided leadership for DOE and national laboratories' activities aimed at assisting Russia, the NIS and the Baltics in critical areas such as export controls and MPC&A to secure all weapons-usable material.

- Rapidly expanded DOE's efforts to secure the hundreds of tons of material in Russia, the NIS and the Baltics in order to implement systematic and rapid MPC&A upgrades. Accelerated effort in the naval and transportation sectors.
- After the completion of the canning of the spent nuclear fuel, activities will shift to minimize the corrosion of the spent fuel and maintain the integrity of the storage canisters prior to removal from North Korea.
- Continue activities that strengthen the international nonproliferation regime by supporting such global treaties as the NPT and the CTBT; advancing a negotiating mandate for the Fissile Material Cutoff Treaty (FMCT); and progressing on START III and regional arms control programs in areas of high tension.

ARMS CONTROL AND NONPROLIFERATION  
PROGRAM FUNDING PROFILE  
(Dollars in Thousands)

Sub-program	FY 1997 Current Appropriation	FY 1998 Original Appropriation	FY 1998 Adjustments	FY 1998 Current Appropriation	FY 1999 Request
-----	-----	-----	-----	-----	-----
Policy and Analysis		\$ 19,571	\$0	\$ 19,571	\$ 24,071
Analytical Support	12,859	0	0	0	0
Nuclear Nonproliferation Policy	8,587	0	0	0	0
Reduced Enrichment Research and Test Reactor (RERTR)	6,422	6,222	0	6,222	6,222
International Safeguards	18,941	18,751	0	18,751	23,251
Export Control Operations	15,302	14,952	0	14,952	14,952
International Materials Protection, Control, and Accounting	112,637	137,008	0	137,008	152,263
Treaties and Agreements	4,028	3,528	0	3,528	3,813
International Security	37,468	34,568	0	34,568	32,328
	-----	-----	-----	-----	-----
Subtotal, Operations and Maintenance	\$ 216,244	\$ 234,600	\$0	\$ 234,600	\$ 256,900
Adjustment	0	0	0	0	0
	-----	-----	-----	-----	-----
TOTAL, Arms Control	<u>\$ 216,244</u>	<u>\$ 234,600</u>	<u>\$0</u>	<u>\$ 234,600</u>	<u>\$ 256,900</u>

ARMS CONTROL AND NONPROLIFERATION

(Dollars in Thousands)

PROGRAM FUNDING BY SITE

Field Offices/Sites	FY 1997 Current Appropriation	FY 1998 Original Appropriation	FY 1998 Adjustments	FY 1998 Current Appropriation	FY 1999 Request
-----	-----	-----	-----	-----	-----
Albuquerque Operations Office	\$ 29,600	\$ 29,600	\$0	\$ 29,600	\$ 15,000
Los Alamos National Lab	39,631	45,886	0	45,886	55,086
Pantex	625	825	0	825	1,825
Sandia National Labs	35,895	43,430	0	43,430	49,230
Chicago Operations Office					
Argonne National Lab	9,805	10,640	0	10,640	10,640
Brookhaven National Lab	6,125	12,731	0	12,731	13,346
New Brunswick Lab	260	260	0	260	260
Oakland Operations Office	1,218	1,218	0	1,218	1,218
Lawrence Livermore National Lab	24,918	32,353	0	32,353	37,353
Oak Ridge Operations					
Oak Ridge National Lab	21,515	26,180	0	26,180	31,180
Richland Operations Office					
Pacific Northwest National Lab	17,260	25,005	0	25,005	29,005
Savannah River Operations Office	4,375	4,575	0	4,575	4,575
Nevada Operations Office	290	290	0	290	290
Washington Headquarters	3,492	1,607	0	1,607	7,892
All Other Sites	21,235	0	0	0	0
	-----	-----	-----	-----	-----
Subtotal	\$ 216,244	\$ 234,600	\$0	\$ 234,600	\$ 256,900
Adjustment	0	0	0	0	0
	-----	-----	-----	-----	-----
TOTAL	<u>\$ 216,244</u>	<u>\$ 234,600</u>	<u>\$0</u>	<u>\$ 234,600</u>	<u>\$ 256,900</u>

## ARMS CONTROL AND NONPROLIFERATION

### POLICY AND ANALYSIS

(Tabular dollars in thousands, narrative in whole dollars)

- I. Mission Supporting Goals and Objectives:** Arms Control and Nonproliferation Policy and Analysis provides technical expertise and analytical support for arms control and nonproliferation treaty and agreement policy formulation, negotiation, and implementation at DOE facilities and in regional security arrangements. Assistance is provided to the State Department for increased contact with potential proliferant states to explore motives driving proliferation aspirations, and to engage DOE technical resources for training, confidence-building measures, implementation and verification of treaties, cooperative monitoring, and application of technology to facilitate proliferation prevention and roll-back. Resources are applied for global and regional arms control and nonproliferation treaties (NPT, CTBT, FMCT) and cooperative analysis of nuclear fuel cycle and environmental situations that destabilize international relations and threaten regional security. Analysis is performed on measures and verification options for a multilateral fissile material production cutoff convention and bilateral cutoff with Russia; implementing a reciprocal monitoring regime for U.S./Russian nuclear weapon dismantlement and fissile material disposition; developing and refining procedures for confirming stockpiles of removed materials, and alternative cost-effective dismantlement transparency, verification, and chain of custody measures. In addition, analysis is performed on verification of nuclear weapon free zones, securing HEU in the Former Soviet Union, and regional confidence building. Assistance is also provided for implementation of the U.S./Russian agreement for exchange of technical information on nuclear warhead safety and supporting projects for continued employment of former Soviet Union scientists in non-weapon activities.

### **II. Funding Schedule:**

<u>Program Activity</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>\$ Change</u>	<u>% Change</u>
Policy and Analysis. . . . .	\$ 0	\$19,571	\$24,071	+\$ 4,500	+23.0%
Analytical Support . . . . .	12,859	0	0	0	0%
.	<u>8,587</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0%</u>
Nuclear Nonproliferation Policy. . . . .					
	<u>\$21,446</u>	<u>\$19,571</u>	<u>\$24,071</u>	<u>+\$ 4,500</u>	<u>+23.0%</u>
Total, Policy and Analysis . . . . .					

## ARMS CONTROL AND NONPROLIFERATION

### POLICY AND ANALYSIS

#### **III. Performance Summary-Accomplishments:**

**FY 1997**

**FY 1998**

**FY 1999**

**Program Priority:** Limit Weapons-Usable Fissile Materials

-Limit weapons-usable fissile materials through worldwide stockpile reductions of plutonium and HEU, shutdown of production reactors, and focus on proliferation implications of and solutions for key nuclear fuel cycle decisions and development and implementation obligations under Agreements for Cooperation with other states.

1,815

1,520

1,520

-Provide analytical and technical support to ongoing negotiations and preparatory to implementation of agreements or treaties such as the Fissile Materials Cutoff Treaty on such issues as transparency, inspection of sensitive DOE facilities and verification.

1,795

750

750

**Program Priority:** Establish Transparent and Irreversible Nuclear Reductions

-Work with Russia and other FSU republics to establish transparent and irreversible nuclear reductions.

6,994

6,110

11,110

**Program Priority:** Strengthen the Nuclear Nonproliferation Regime

-Continue technical programs to support regional nonproliferation, energy, environmental, and security exchanges involving such concerns as cooperative monitoring, verification, arms control and nonproliferation training; trans-border environmental impacts, which impact regional stability in the Middle East, South Asia and Northeast Asia.

6,327

6,550

6,200

-Continue CTBT negotiations, ratification and implementation, including support for U.S. responsibilities in the Preparatory Commission and for on-site inspections at DOE facilities.

2,415

2,196

2,196

## ARMS CONTROL AND NONPROLIFERATION

### POLICY AND ANALYSIS

#### III. Performance Summary-Accomplishments:

**FY 1997**

**FY 1998**

**FY 1999**

Program Priority: Strengthen the Nuclear Nonproliferation Regime

-Continue U.S. scientific cooperative programs with Russian and Chinese scientific counterparts on non-weapons programs, including exchanges such as nonproliferation, arms control, and verification technology and expand program to include India and possibly other countries.

2,100

2,445

2,295

**Total, Policy and Analysis**

**\$21,446**

**\$19,571**

**\$24,071**

#### EXPLANATION OF FUNDING CHANGES FY 1998 TO FY 1999:

##### **FY 1998 Current Appropriation**

**\$19,571**

Increase reflects workload associated with the anticipated negotiations of a new START III agreement, specifically in support of the Helsinki Summit Statement to meet specified lower levels for strategic warheads as well as transparency of strategic nuclear warhead inventories and the prescribed reductions (dismantlements) and destruction of the weapons components and fissile materials.

+ 5,000

Reduction in regional nonproliferation efforts.

-350

Reallocation in support of Kazakhstan spent fuel initiative under International Security Program Activity.

-150

##### **FY 1999 Request**

**\$24,071**

## ARMS CONTROL AND NONPROLIFERATION

### REDUCED ENRICHMENT RESEARCH AND TEST REACTOR (RERTR)

(Tabular dollars in thousands, narrative in whole dollars)

- I. Mission Supporting Goals and Objectives:** Reduced Enrichment Research & Test Reactor (RERTR) supports development of low enriched uranium (LEU) fuels to further LEU conversion of research and test reactors; expedited return of U.S. origin research reactor spent fuel from overseas; and development of targets and chemical processes for producing molybdenum-99 using LEU. New funding will support development of advanced high density LEU fuels for Russian and Chinese reactors and remaining unconverted reactors in Western Europe and the U.S.

**II. Funding Schedule:**

<u>Program Activity</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>\$ Change</u>	<u>% Change</u>
Reduced Enrichment Research & Test Reactor . . . . .	\$ <u>6,422</u>	\$ <u>6,222</u>	\$ <u>6,222</u>	\$ <u>0</u>	<u>0%</u>
Total, Reduced Enrichment Research & Test Reactor . . . . .	\$ <u>6,422</u>	\$ <u>6,222</u>	\$ <u>6,222</u>	\$ <u>0</u>	<u>0%</u>

**III. Performance Summary-Accomplishments:**

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
<u>Program Priority:</u> Limit Weapons-Usable Fissile Materials			
-Continue cooperative activities with Russian laboratories on implementation of Russian agreements and the development of LEU Fuels for Russia.	1,047	1,250	1,250
-Initiate return of U.S.-origin spent nuclear research reactor fuel from abroad under the Environmental Impact Statement. Conduct IAEA laboratory cooperation to facilitate receipt of U.S.-origin spent nuclear fuel.	255	200	200
-Conduct exchange visits with Chinese laboratories and start cooperative exchanges with China on RERTR, and develop joint plan for reactor conversion with China.	93	400	400

## ARMS CONTROL AND NONPROLIFERATION

### REDUCED ENRICHMENT RESEARCH AND TEST REACTOR (RERTR)

<b>III. <u>Performance Summary-Accomplishments:</u></b>	<b><u>FY 1997</u></b>	<b><u>FY 1998</u></b>	<b><u>FY 1999</u></b>
<u>Program Priority:</u> Limit Weapons-Usable Fissile Materials			
-Initiate development of high density LEU fuels for research reactors.	2,762	2,472	2,472
-Continue development of LEU targets for molybdenum-99 production. Begin with U.S.- South African Cooperation on production using LEU.	1,151	1,250	1,250
-Continue conversion efforts of U.S. reactors and pursue cooperation on reactor conversion with Eastern Europe and South Africa.	1,114	650	650
	<hr/>	<hr/>	<hr/>
<b>Total, Reduced Enrichment Research &amp; Test Reactor</b>	<b><u>\$6,422</u></b>	<b><u>\$6,222</u></b>	<b><u>\$6,222</u></b>

EXPLANATION OF FUNDING CHANGES FY 1998 TO FY 1999: No change.

## ARMS CONTROL AND NONPROLIFERATION

### INTERNATIONAL SAFEGUARDS

(Tabular dollars in thousands, narrative in whole dollars)

- I. Mission Supporting Goals and Objectives:** International Safeguards provides policy and technical leadership and funds efforts to strengthen the Nuclear Nonproliferation Regime, particularly on global nuclear material security. These efforts improve the cost-effectiveness of the International Atomic Energy Agency (IAEA) in detecting clandestine nuclear activities and safeguarding declared nuclear material. New approaches such as environmental monitoring, remote monitoring, and information management tools are addressed. Policy and technical support is provided to DOE program offices and sites for the implementation of IAEA safeguards on U.S. excess material at DOE sites under bilateral and trilateral (with Russia) arrangements. Verification measures are developed, in coordination with the International Policy and Analysis activity and the Office of Research and Development, for implementing a fissile material cut-off treaty. IAEA technical assistance programs that promote peaceful use of atomic energy and bilateral nuclear cooperation efforts through "sister lab" arrangements are supported. Agreements for safeguards cooperation are negotiated and implemented for improved material protection, control, accountancy, and transparency with other countries, regions, and international organizations, including China, Japan, South Africa, South Korea, IAEA, European Atomic Energy Community (EURATOM), Argentina, Brazil, Argentine-Brazil Accounting and Control Commission (ABACC), and Australia. Manage the physical protection program to ensure that all countries that possess U.S.-origin nuclear materials are adequately protected against, theft, sabotage, and nuclear smuggling. Manage and operate the International Nuclear Material Tracking and Analysis Program (INA), for tracking and analyzing domestic (NMMSS) and foreign nuclear materials.

**II. Funding Schedule:**

<u>Program Activity</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>\$ Change</u>	<u>% Change</u>
International Safeguards. . . . .	\$ <u>18,941</u>	\$ <u>18,751</u>	\$ <u>23,251</u>	\$ <u>4,500</u>	+ <u>24.0%</u>
.	\$ <u>18,941</u>	\$ <u>18,751</u>	\$ <u>23,251</u>	\$ <u>4,500</u>	+ <u>24.0%</u>
Total, International Safeguards . . . . .					

**III. Performance Summary-Accomplishments:**

FY 1997      FY 1998      FY 1999

Program Priority: Strengthen the Nuclear Nonproliferation Regime

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-Provide technical experts, training and equipment to IAEA and UNSCOM for inspections in Iraq and North Korea.	1,200	1,100	1,100
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## ARMS CONTROL AND NONPROLIFERATION

### INTERNATIONAL SAFEGUARDS

### III. Performance Summary-Accomplishments:

<b><u>FY 1997</u></b>	<b><u>FY 1998</u></b>	<b><u>FY 1999</u></b>
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Program Priority: Strengthen the Nuclear Nonproliferation Regime

-Provide technical advice, support, and technologies (e.g., environmental monitoring, remote monitoring, and information management tools) to IAEA for development of new strengthened safeguards policies and methods.	4,300	3,700	5,300
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-Per NNPA-78, Section 202, provide training on safeguards and physical protection to nationals of nuclear developing countries.	850	500	500
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-Analyze and implement policy on U.S., IAEA, and Russian Trilateral verification program to develop and apply IAEA measures on U.S. and Russian excess nuclear weapons material.	200	400	2,100
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-Per Presidential Decision Directive 41, continue IAEA inspections on current U.S. nuclear material under IAEA safeguards.	2,700	2,700	3,900
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-Promote peaceful use of atomic energy through support to IAEA technical cooperation activities, sister laboratory arrangements, and promotion of NPT.	500	550	550
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-Continue cooperation with South American, Asian, and European partners to strengthen safeguards on uranium and plutonium.	3,691	3,401	3,401
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-Per NNPA-78, lead USG teams on visits to countries with U.S.-origin nuclear material to ensure adequate physical protection.	500	400	400
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-Provide physical protection technical assistance to countries with which DOE has bilateral agreements and to the IAEA Physical Protection Assistance Service in order to prevent nuclear smuggling.	0	1,000	1,000
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## ARMS CONTROL AND NONPROLIFERATION

### INTERNATIONAL SAFEGUARDS

<b>III. <u>Performance Summary-Accomplishments:</u></b>	<b><u>FY 1997</u></b>	<b><u>FY 1998</u></b>	<b><u>FY 1999</u></b>
<u>Program Priority:</u> Strengthen the Nuclear Nonproliferation Regime			
-Operate INA (International Nuclear Materials Tracking and Analysis Program), including the Nuclear Materials Management and Safeguards System (NMMSS), to track and analyze U.S. and foreign nuclear material inventories and transactions.	5,000	5,000	5,000
	_____	_____	_____
<b>Total, International Safeguards</b>	<b><u>\$18,941</u></b>	<b><u>\$18,751</u></b>	<b><u>\$23,251</u></b>

#### EXPLANATION OF FUNDING CHANGES FY 1998 TO FY 1999:

<b>FY 1998 Current Appropriation</b>	<b>\$18,751</b>
Increase reflects enhanced support and technical assistance to IAEA for the development of new strengthened safeguards policies and methods.	+ 1,600
Increase reflects additional work toward the development and implementation of the U.S., IAEA, and Russian Trilateral verification program to apply IAEA safeguards measures on U.S. and Russian excess nuclear material.	+ 1,700
Increase supports continued IAEA inspections on U.S. nuclear material under IAEA safeguards and provides support for the submission of additional U.S. excess material from the 200 metric tons to IAEA safeguards. The increase will enable the evaluation of new concepts and options for non-intrusive monitoring of excess fissile material.	+ 1,200
<b>FY 1999 Request</b>	<b>\$23,251</b>

## ARMS CONTROL AND NONPROLIFERATION

### EXPORT CONTROL OPERATIONS

(Tabular dollars in thousands, narrative in whole dollars)

- I. Mission Supporting Goals and Objectives:** Export Control Operations advance U.S. nonproliferation export control objectives by developing and implementing policies, regulations, and procedures to halt the spread of weapons of mass destruction; control the export of nuclear and nuclear-related equipment, materials, and technologies as mandated by law and in accordance with national security objectives; and provide unique technical expertise and training for the U.S. and international nonproliferation communities.

**II. Funding Schedule:**

<u>Program Activity</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>\$ Change</u>	<u>% Change</u>
Export Control Operations . . . . .	\$ <u>15,302</u>	\$ <u>14,952</u>	\$ <u>14,952</u>	\$ <u>0</u>	<u>0%</u>
Total, Export Control Operations . . . . .	\$ <u>15,302</u>	\$ <u>14,952</u>	\$ <u>14,952</u>	\$ <u>0</u>	<u>0%</u>

**III. Performance Summary-Accomplishments:**

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
<u>Program Priority:</u> Secure Nuclear Materials and Expertise in Russia, the Newly Independent States (NIS), and the Baltics			
-Continue government-to-government export control initiatives and on-going lab-to-lab cooperative agreements to develop the necessary infrastructure to ensure control over nuclear and nuclear-related exports.	1,915	1,915	1,915
-Participate in DOE, USG, and multilateral initiatives to combat nuclear smuggling and the illicit transfer of technologies for the production and utilization of special nuclear material.	500	1,000	1,000

## ARMS CONTROL AND NONPROLIFERATION

### EXPORT CONTROL OPERATIONS

#### **III. Performance Summary-Accomplishments:**

**FY 1997      FY 1998      FY 1999**

Program Priority: Secure Nuclear Materials and Expertise in Russia, the Newly Independent States (NIS), and the Baltics

-Serve as the principal U.S. agency in negotiating controls over nuclear and nuclear-related dual-use materials, equipment, and technologies, especially within the Nuclear Suppliers Group and the Nonproliferation Treaty Exporter's Committee (Zangger Committee). Includes ongoing activities to harmonize unilateral and multilateral controls as mandated by PDD-13. These activities include current negotiations to control accelerator technology for SNM and tritium production.

2,335              2,285              2,285

Program Priority: Strengthen the Nuclear Nonproliferation Regime

-Implement, and support a computerized information sharing system in the Nuclear Suppliers Group for the timely sharing of export denials among the 34 Subscribing Governments.

575              575              575

Program Priority: Control Nuclear Exports

-Review and provide recommendations to the Nuclear Regulatory Commission and the Department of Commerce on nuclear and nuclear-related dual-use licenses, representing DOE on all interagency fora (e.g., the Advisory Committee on Export Policy and the Interagency Working Group on Nonproliferation and Export Controls) in support of mandated responsibilities.

3,992              3,870              3,870

-Administer, for the Department, the controls on the transfer of technology and assistance under 10 CFR Part 810.

685              685              685

-Ensure the viability of the Proliferation Information Network System (PINS) to support the DOE license processing system. Refine and expand the PINS to include more users.

2,580              2,002              2,002

-Ensure that DOE surplus equipment and technology is disposed of in a responsible manner and that technology transfers are consistent with regard to U.S. nonproliferation policy.

2,310              2,210              2,210

## ARMS CONTROL AND NONPROLIFERATION

## EXPORT CONTROL OPERATIONS

### III. Performance Summary-Accomplishments:

**FY 1997**

**FY 1998**

**FY 1999**

Program Priority: Control Nuclear Exports

-Conduct technology security reviews for DOE-funded foreign travel, visits and assignments to DOE facilities, technical exchanges, and export of DOE-controlled technology. Provide program and systems support for the Sensitive Country Information Logging System.

410

410

410

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\_\_\_\_\_

\_\_\_\_\_

**Total, Export Control Operations**

**\$15,302**

**\$14,952**

**\$14,952**

EXPLANATION OF FUNDING CHANGES FY 1998 TO FY 1999: No change.

## ARMS CONTROL AND NONPROLIFERATION

### INTERNATIONAL MATERIALS PROTECTION, CONTROL, AND ACCOUNTING

(Tabular dollars in thousands, narrative in whole dollars)

- I. Mission Supporting Goals and Objectives:** International Materials Protection, Control, and Accounting (MPC&A) activities are designed to support cooperation under agreements established with Russia, the Newly Independent States (NIS), and the Baltics for the protection of “direct use” nuclear materials. The program focuses on key facilities and institutions that possess or process significant quantities of such nuclear weapons-usable materials that are of nonproliferation concern. The program provides expertise for planning and implementation of systems and procedures to enhance protection of such materials. These activities support the integration of nuclear materials security elements into systems that provide effective security and are maintainable and sustainable by the cooperating countries. Efforts also promote the diffusion of nuclear materials security technologies, concepts, and expertise to different types of operating facilities where systems will be implemented.

**II. Funding Schedule:**

<u>Program Activity</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>\$ Change</u>	<u>% Change</u>
International Materials Protection, Control & Accounting. . . . .	\$ <u>112,637</u>	\$ <u>137,008</u>	\$ <u>152,263</u>	+\$ <u>15,255</u>	+ <u>11.1%</u>
.					
Total, International Materials Protection, Control, & Accounting. . . . .	\$ <u>112,637</u>	\$ <u>137,008</u>	\$ <u>152,263</u>	+\$ <u>15,255</u>	+ <u>11.1%</u>

## ARMS CONTROL AND NONPROLIFERATION

### INTERNATIONAL MATERIALS PROTECTION, CONTROL, AND ACCOUNTING

<b>III. <u>Performance Summary-Accomplishments:</u></b>	<b><u>FY 1997</u></b>	<b><u>FY 1998</u></b>	<b><u>FY 1999</u></b>
<u>Program Priority:</u> Secure Nuclear Materials and Expertise in Russia, the Newly Independent States (NIS), and the Baltics			
-MPC&A Upgrades for Defense Related Sites in Russia:	50,000	63,504	92,280
<u>Uranium and Plutonium Cities:</u> Mayak, T-7, K-26, K-45, and S-44			
<u>Nuclear Weapons Complex:</u> A-16, C-70, and the Serial Production Facilities (Z-36, P-19, S-45 and Avangard)			
<u>Maritime Fuel:</u> Naval (Northern and Pacific Fleets), Commercial (Murmansk Shipping Company (MSCO) and Icebreaker Fleet), and Kurchatov Institute			
<u>Transportation:</u> Eleron			
-MPC&A Upgrades for Civilian and Regulatory Related Sites in Russia:	58,137	63,900	59,983
<u>Large Fuel Facilities:</u> Fuel Fabrication: Elektrostal, Novosibirsk, and Luch Reactor Technology; Development: Dmitrovgrad and IPPE			
<u>Reactor-Type Facilities:</u> Near Moscow: Dubna, RDIPE, ITEF, MePhI, and Karpov and Lytkarino; Outside Moscow: PNPI, Khlopin, TPU, BNPP, SF-NIKIET, Krylov and Norilsk			
<u>Regulatory:</u> Federal Regulatory Development, Federal Accounting Information System, Inspector Equipment, GAN Inspection Information System, Bochvar, and Automatics			
<u>Training:</u> GAN Inspection Training, RMTC, and the MePhI Grad Program			
-MPC&A cooperation in Kazakhstan, Ukraine, Belarus, Uzbekistan, Latvia, Georgia, and Lithuania.	4,500	9,604	0
<b>Total, International Materials Protection, Control, and Accounting</b>	<b><u>\$112,637</u></b>	<b><u>\$137,008</u></b>	<b><u>\$ 152,263</u></b>

## ARMS CONTROL AND NONPROLIFERATION

### INTERNATIONAL MATERIALS PROTECTION, CONTROL, AND ACCOUNTING

#### EXPLANATION OF FUNDING CHANGES FY 1998 TO FY 1999:

<b>FY 1998 Current Appropriation</b>	<b>\$137,008</b>
Decrease reflects a net change due to the completion of MPC&A upgrades for 13 Russian reactor-type facilities (-\$6,217,000); and the acceleration of the upgrades at large fuel facilities (+\$2,300,000).	- 3,917
Decrease reflects completion of MPC&A upgrades for 13 sites in Kazakhstan, Ukraine, Belarus, Uzbekistan, Latvia, Georgia, and Lithuania.	- 9,604
Increase reflects additional work at the four serial production facilities and expanded work in the transportation and maritime fuel upgrades.	+ 28,776
<b>FY 1999 Request</b>	<b>\$152,263</b>

## ARMS CONTROL AND NONPROLIFERATION

### TREATIES AND AGREEMENTS

(Tabular dollars in thousands, narrative in whole dollars)

- I. Mission Supporting Goals and Objectives:** The Treaties and Agreements sub-program supports implementation of bilateral or multilateral, Presidentially-directed or Congressionally-mandated arms control and nonproliferation initiatives, agreements and treaties. In addition, it provides for unexpected, unbudgeted responses to arms control and nonproliferation requirements of an immediate nature based on urgent U.S. national security needs, as well as preparations to meet new transparency or verification requirements arising out of ongoing negotiations that are consistent with U.S. national security and without compromising proliferation sensitive information.

**II. Funding Schedule:**

<u>Program Activity</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>\$ Change</u>	<u>% Change</u>
Treaties and Agreements . . . . .	\$ <u>4,028</u>	\$ <u>3,528</u>	\$ <u>3,813</u>	+\$ <u>285</u>	+ <u>8.1%</u>
Total, Treaties and Agreements . . . . .	\$ <u>4,028</u>	\$ <u>3,528</u>	\$ <u>3,813</u>	+\$ <u>285</u>	+ <u>8.1%</u>

**III. Performance Summary-Accomplishments:**

Program Priority: Secure Nuclear Materials and Expertise in Russia, the Newly Independent States (NIS), and the Baltics

-Continue support for Russian and other FSU activities supporting specific agreements such as Gore/Chernomyrdin Commission agreements.

<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
300	300	300
1,500	500	500
1,000	1,000	1,000

Program Priority: Limit Weapons-Usable Fissile Materials

-Support for Highly Enriched Uranium Purchase Agreement, and other opportunities to secure through purchase at-risk weapons-usable materials.

-Support for activities related to bilateral and trilateral excess fissile materials inspections among Russia, the International Atomic Energy Agency (IAEA), and the U.S.

## ARMS CONTROL AND NONPROLIFERATION

### TREATIES AND AGREEMENTS

<b>III. <u>Performance Summary-Accomplishments:</u></b>	<b><u>FY 1997</u></b>	<b><u>FY 1998</u></b>	<b><u>FY 1999</u></b>
<u>Program Priority:</u> Strengthen the Nuclear Nonproliferation Regime			
-Support the successful ratification and implementation of DOE responsibilities under the Comprehensive Test Ban Treaty (CTBT), Chemical Weapons Convention (CWC) and Biological Weapons Convention (BWC), as well as for supporting contingency funding for unexpected requirements concerning treaty or agreement negotiations and related activities responding to urgent U.S. national security requirements.	1,000	1,500	1,785
-Continue to provide technical support and personnel for United Nations Special Commission (UNSCOM) to ensure no reinitiation of programs for weapons of mass destruction in Iraq.	228	228	228
	—	—	—
<b>Total, Treaties and Agreements</b>	<b><u>\$4,028</u></b>	<b><u>\$3,528</u></b>	<b><u>\$3,813</u></b>

#### EXPLANATION OF FUNDING CHANGES FY 1998 TO FY 1999:

<b>FY 1998 Current Appropriation</b>	<b>\$3,528</b>
Increase provides enhanced ability to respond to urgent national security problems.	+ 285
<b>FY 1999 Request</b>	<b>\$3,813</b>

## ARMS CONTROL AND NONPROLIFERATION

### INTERNATIONAL SECURITY

(Tabular dollars in thousands, narrative in whole dollars)

- I. **Mission Supporting Goals and Objectives:** International Security supports the implementation of security commitments made by the Administration regarding the Newly Independent States (NIS) of the Former Soviet Union (FSU) and the Democratic Peoples Republic of Korea (DPRK). Specific efforts are:

-Spent fuel activities in the DPRK include arresting the corrosion of the spent fuel from the 5MW research reactor in Nyongbyon, North Korea; and safely canning and storing spent fuel prior to its ultimate disposition in accordance with the "agreed" framework signed by the governments of the U.S. and DPRK.

-A new initiative in FY1999 supports the urgent security and storage requirements for plutonium-bearing spent fuel located at the Aktau Reactor in Kazakhstan.

-The Initiatives for Proliferation Prevention (IPP) in the NIS was transferred from Defense Programs, Weapons Activities in FY 1996. The IPP are designed to reduce the global nuclear danger through focused, cooperative projects involving the ten major DOE laboratories and science and engineering institutes in Russia, Ukraine, Kazakhstan and Belarus. Some of these projects will involve cost-sharing with U.S. industry. Major initiatives include preventing "brain drain" by engaging scientists, engineers, and technicians in non-weapons-related projects; motivating participation in proliferation prevention activities; facilitating continued access to NIS facilities through technical engagement with personnel; and establishing self-sustaining commercial linkages that will support future independent commercial projects and assure a Federal exit strategy.

## ARMS CONTROL AND NONPROLIFERATION

### INTERNATIONAL SECURITY

#### II. Funding Schedule:

<u>Program Activity</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>\$ Change</u>	<u>% Change</u>
Spent Fuel Activities in the DPRK. . . . .	\$ 7,868	\$ 4,968	\$ 2,328	-\$ 2,640	- 53.1%
Spent Fuel Activities in Kazakhstan. . . .	0	<sup>A)</sup> 0	15,000	+ 15,000	+100.0%
Initiatives for Proliferation Prevention. . .	<u>29,600</u>	<u>29,600</u>	<u>15,000</u>	- <u>14,600</u>	- <u>49.3%</u>
Total, International Security . . . . .	<u>\$37,468</u>	<u>\$34,568</u>	<u>\$32,328</u>	-\$ <u>2,240</u>	- <u>6.5%</u>

#### III. Performance Summary-Accomplishments:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
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Program Priority: Strengthen the Nuclear Nonproliferation Regime

Spent Fuel Activities in the DPRK:

-Complete placement of spent and damaged fuel into canisters with inert gas and under IAEA seals.	4,800	0	0
-Implement long-term maintenance of water treatment and fuel canning equipment in DPRK, to include replacement equipment, materials consumed in maintenance, fuel for site power and heat for winter visits; and associated shipping costs.	2,468	2,468	1,028

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A) This Program Activity will receive \$10 million in FY 1998 from a combination of prior year balances and FY 1998 budget authority

available to the Arms Control and Nonproliferation Program.

## ARMS CONTROL AND NONPROLIFERATION

### INTERNATIONAL SECURITY

#### III. Performance Summary-Accomplishments:

**FY 1997      FY 1998      FY 1999**

Program Priority: Strengthen the Nuclear Nonproliferation Regime

-Conduct on-site inspections combined with follow-up trips to repair equipment or recan spent fuel if necessary. Carry out technical studies to analyze safety issues, characterize fuel, and develop disposition options.

0                      1,100                      700

-Train DPRK staff to maintain essential site equipment; maintain a trained team of US experts, conduct regular health physics tests, and maintain necessary certifications.

600                      400                      100

-Resolve problems with canister integrity, water clarity, and other issues which would impact IAEA safeguards activities.

0                      1,000                      500

**Total, Spent Fuel Activities in the DPRK**

**\$7,868                      \$4,968                      \$2,328**

Program Priority: Secure Nuclear Materials and Expertise in Russia, the Newly Independent States (NIS), and the Baltics

Spent Fuel Activities in Kazakhstan:

-Assist Kazakhstan to meet long-term security and storage requirements for plutonium-bearing spent fuel located at the Aktau Reactor.

0                      A)0                      15,000

**Total, Spent Fuel Activities in Kazakhstan**

**\$ 0                      \$ 0                      \$15,000**

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A) This Program Activity will receive \$10 million in FY 1998 from a combination of prior year balances and FY 1998 budget authority available to the Arms Control and Nonproliferation Program.

ARMS CONTROL AND NONPROLIFERATION

## INTERNATIONAL SECURITY

### III. Performance Summary-Accomplishments:

**FY 1997      FY 1998      FY 1999**

Program Priority: Secure Nuclear Materials and Expertise in Russia, the Newly Independent States (NIS), and the Baltics

Initiatives for Proliferation Prevention:

-Create 17 cooperative, cost-sharing projects aimed at establishing direct partnerships which will provide for long-term commercial employment of key scientists, engineers, and technicians.	15,100	15,100	7,800
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-Carry out other IPP project and support activities to keep NIS institutes viable as stable places of peaceful employment; to engage NIS weapons scientists, engineers and technicians in peaceful, commercial activities to prevent “brain drain;” to facilitate broad access to NIS chemical, biological and nuclear weapons facilities in order to achieve close 1/1 working relationships of DOE laboratory scientists and engineers with their NIS colleagues to promote openness and transparency; and to focus on “closed cities.”	12,100	12,100	5,800
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-Involve other agencies having similar technological interest, such as NIH, USDA, and Department of State, in a total of 5-15 IPP projects.	1,000	1,000	1,000
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-Conduct specific projects involving technologies, the development of which supports enhanced safety, security and accountability of nuclear materials (for example, neutron emission technology to counter nuclear smuggling).	1,400	1,400	400
	_____	_____	_____

<b>Total, Initiatives for Proliferation Prevention</b>	<b>\$29,600</b>	<b>\$29,600</b>	<b>\$15,000</b>
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<b>Total, International Security</b>	<b><u>\$37,468</u></b>	<b><u>\$34,568</u></b>	<b><u>\$32,328</u></b>
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EXPLANATION OF FUNDING CHANGES FY 1998 TO FY 1999:

<b>FY 1998 Current Appropriation</b>	<b>\$34,568</b>
Increase reflects priority of Kazakhstan fuel security initiative.	+15,000
Decrease is due to an anticipated reduced need to acquire additional canisters for spent fuel storage or for ion exchange in the water treatment system, and a reduced need to train DPRK staff.	- 2,240
Decrease due to an anticipated cutback in the number of site inspections.	- 400
IPP reduction is based on maturation of the program and high uncostered balances in prior years.	- 14,600
<b>FY 1999 Request</b>	<b>\$32,328</b>

ARMS CONTROL AND NONPROLIFERATION  
CAPITAL OPERATING EXPENSES & CONSTRUCTION SUMMARY  
(Dollars in thousands)

<u>Capital Operating Expenses</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>\$ Change</u>	<u>% Change</u>
Capital Equipment (total)	\$ 2,935	\$ 3,000	\$ 3,000	\$ 0	0%

**DEPARTMENT OF ENERGY**  
**FY 1999 CONGRESSIONAL BUDGET REQUEST**  
**OTHER DEFENSE ACTIVITIES**  
**(Tabular dollars in thousands, Narrative in whole dollars)**

**INTELLIGENCE**

**PROGRAM MISSION**

The Intelligence mission is to provide the Department, other U.S. Government policymakers, and the Intelligence Community with timely, accurate, high impact foreign intelligence analyses; to ensure that the Department's technical, analytical and research expertise is made available to the Intelligence Community in accordance with Executive Order 12333; to deter and neutralize foreign intelligence service actions (HUMINT) in the U.S. from acquiring sensitive information (classified and unclassified) involving DOE programs, facilities, technology, and personnel; to provide quick-turnaround, specialized technology applications and operational support to the intelligence, special operations, and law enforcement communities; and to provide threat assessment support to the Department's Headquarters and field operations.

The GOAL of the Intelligence Program is to support the National Security of the United States and have a direct impact on the policymaking process by providing actionable intelligence and/or technical support to intelligence operations that either reaffirms or amends existing policy, or initiates new policy actions. The Department's intelligence program serves four core policy areas: nuclear proliferation and weapons analysis, science and technology (S&T), energy security, and nuclear energy, safety and waste.

The OBJECTIVES related to this goal are to provide technical and analytical intelligence support to U.S. efforts to:

1. Improve nuclear materials protection, control, and accountability in the former Soviet Union;
2. Assist in the safe and secure dismantlement of former Soviet nuclear weapons;
3. Conclude Comprehensive Test Ban and Fissile Materials Cut-off treaties;
4. Verify foreign compliance with international treaties in the nuclear arena;

## **PROGRAM MISSION - INTELLIGENCE (Cont'd)**

5. Limit and redirect North Korea's nuclear weapons program;
6. Address the challenge of global nuclear proliferation through the innovative and broad application of DOE assets;
7. Help identify low probability/high impact scenarios in our core areas;
8. Encourage and facilitate the application of DOE laboratory expertise to Intelligence Community technology development requirements;
9. Provide specialized technical support to operations in the intelligence, law enforcement, and special operations communities;
10. Assess threats to DOE personnel, operations and facilities from foreign and domestic adversaries; and
11. Assess the credibility of nuclear threats received worldwide and support efforts for the prevention of illicit nuclear materials trafficking.

## **PERFORMANCE MEASURES:**

1. Provide 3,000 intelligence briefings for program and policy officials.
2. Publish 1,200 current intelligence products and studies.
3. Provide nuclear weapons-related training for 260 intelligence community personnel in support of U.S. Government nonproliferation initiatives.
4. Provide 12 counterintelligence awareness training sessions in support of counterespionage initiatives.
5. Conduct 70 counterintelligence travel briefings/debriefings.
6. Complete and transition 3-5 Special Technologies projects.

## **PROGRAM MISSION - INTELLIGENCE (Cont'd)**

### **SIGNIFICANT FY 1997 ACCOMPLISHMENTS AND PROGRAM SHIFTS:**

- Provided assessments of threats to DOE facilities and interests and collaborated with the FBI's National Center for the Analysis of Violent Crime for joint information and data sharing.
- Provided rapid credibility assessment of any threats made involving nuclear weapons, devices or materials, and supported rapid credibility assessment of potential nuclear weapons or materials smuggling activities.
- Served as the analytical lead in various intelligence analyses.
- Provided an on-call capability to rapidly identify and provide unique DOE expertise/technologies to support federal agencies' varied missions: for example, deployed equipment and technical personnel overseas to support U.S. Military and Department of State operations.
- Provided support to specialized intelligence operations, to include the development/enhancement of a suite of sensitive, lightweight, compact and inexpensive radiation detection equipment; an on-call capability, through selected Department of Energy (DOE) laboratories, to analyze spectral data and identify/classify suspect nuclear materials; specialized training on nuclear health physics and the use of the detection equipment; and a full-time DOE laboratory technical advisor.
- Conducted a joint program with U.S. Customs Service to assess the capabilities of selected commercial and field prototype equipment, under a variety of simulated border scenarios, to detect and analyze radioactive materials. Results provided a reference for USCS and other law enforcement agencies to identify radiation detection technology that best suits their specific needs.
- In a collaborative effort with the Joint Staff, conducted a workshop to discuss Department of Defense mission requirements related to tagging, tracking, and locating and identify technologies to meet specific user needs, with follow-on participation in an Advanced Concept Technology Demonstration to select and evaluate technologies in the field.
- Developed two specialized communications systems for supporting intelligence operations and transition to a user agency for further development.

## INTELLIGENCE

### I. Mission Supporting Goals and Objectives

Provide analysis and reporting on: the status and direction of emerging nuclear weapons programs of proliferant nations; countries engaged in the supply of nuclear technology, equipment, and material to proliferant programs; the production and disposition of fissile material worldwide, with special emphasis on the implications of the breakup of the former Soviet Union and its impact on the control and accountability of special nuclear material in its possession; the foreign economic threat to U.S. energy resources and U.S. energy security; the impact of changes in global energy markets on U.S. industrial competitiveness, while emphasizing opportunities and challenges to U.S. exports; the identification of foreign nuclear facilities posing risk to health and the environment and implications of a massive release of radiation; foreign technology plans, priorities, and commercial applications of leading edge technologies deemed critical by the Department and the White House Office of S&T Policy; and foreign dual-use technologies in Russia and China. Operate a department-wide CI program which focuses on detecting and defeating intelligence threats from traditional and non-traditional adversaries directed against DOE. Assess threats to the Department's Headquarters and field operations. Assist intelligence, law enforcement and special operations communities in effectively tapping into DOE lab technology base, including by developing rapid turnaround specialized technology applications.

### II. Funding Schedule:

Program Activity	FY 1997	FY 1998	FY 1999	\$ Change	% Change
-----	-----	-----	-----	-----	-----
Intelligence Activities	\$ 34,090	\$ 33,600	\$ 33,600	\$ 0	\$ 0
	-----	-----	-----	-----	-----
Total, Intelligence <u>a/</u>	\$ 34,090	\$ 33,600	\$ 33,600	\$ 0	\$ 0
	=====	=====	=====	=====	=====

a/ FY 1997 includes \$3.3M for Threat Assessment funded in Emergency Management in FY 1998.

### III. Performance Summary:

#### FY 1997 Accomplishments:

- Initiated 29 technology applications projects. Eleven projects were transitioned to other federal agencies, other DOE program offices, or as the basis for initiating related efforts.
- Maintained a current compendium of information on foreign nuclear facilities.
- Provided 2,400 briefings on energy security topics.
- Distributed 28 counterintelligence bulletins
- Provided 13,972 defensive counterintelligence briefings.

#### FY 1998 and FY 1999 Accomplishments:

- Provide analyses supporting U.S. Government policies in foreign material control and accountability.
- Provide technical evaluations of foreign nuclear dismantlement programs.
- Provide training sessions for DOE and Intelligence Community analysts.
- Develop quick turnaround, specialized technology applications to meet near-term national security requirements within the intelligence, special operations, and law enforcement communities.
- Expand the on-call capability to rapidly support specialized intelligence operations with additional technical personnel, equipment, and analytical capabilities.

**DEPARTMENT OF ENERGY**  
**FY 1999 CONGRESSIONAL BUDGET REQUEST**  
**OTHER DEFENSE ACTIVITIES**  
(Tabular dollars in thousands, Narrative in whole dollars)

**NUCLEAR SAFEGUARDS AND SECURITY**

**PROGRAM MISSION**

The Nuclear Safeguards and Security Program provides effective policy, programmatic direction and training for the protection of the Department of Energy's (DOE) nuclear weapons, nuclear materials, classified information, and facilities. The program provides technology development and technical support to domestic safeguards and security activities as well as implementation of effective classified information and information control policies.

The GOAL of the Nuclear Safeguards and Security Program is to:

Support the National Security of the United States by assuring the effective, cost-efficient protection of the DOE's nuclear weapons, nuclear materials, classified information, and facilities against theft, sabotage, espionage, and terrorist activity.

The OBJECTIVES related to this goal are:

1. Strengthen support to field elements to facilitate implementation of cost-saving safeguards and security measures.
2. Develop Department-wide strategic and long-range planning for domestic nuclear safeguards and security.
3. Modernize safeguards and security management information systems.
4. Provide a domestic technology and systems development program to ensure the availability of state-of-the-art technical capabilities for the protection of sensitive DOE facilities, special nuclear materials, and national security interests including classified matter.
5. Ensure availability of state-of-the-art technical capabilities for accountability and control of nuclear material recovered from disassembled nuclear weapons returned from the stockpile, and storage of special nuclear materials.

## **PROGRAM MISSION - NUCLEAR SAFEGUARDS AND SECURITY (Cont'd)**

6. Support the role of the Safeguards and Security Central Training Academy.
7. Develop programs to support the standardization and accreditation of physical security systems.
8. Maximize public access to DOE information while protecting national security.

### **PERFORMANCE MEASURES:**

1. Through the Central Training Academy, conduct 118 safeguards and security training courses with approximately 176 iterations to protect domestic safeguards and security resources.
2. Modify current technologies for safeguards and security applications or develop new technologies to reduce the backlog of documented and validated field user needs by about 50%.
3. Comply with Executive Order 12958 on Classified National Security Information by issuing new procedures, training those individuals responsible for implementing these procedures, and initiating a consolidated document declassification program focused on Restricted Data/Formerly Restricted Data and National Security Information records of most interest to our customers, while continuing to protect that information which warrants classification.

### **SIGNIFICANT ACCOMPLISHMENTS AND PROGRAM SHIFTS:**

- o Comprehensive continuous review and analysis of program requirements coupled with advances in safeguards and security technologies has resulted in millions of dollars in savings and cost avoidance for the Department, i.e., development of technologies and approaches for extending and automating physical inventory activities to improve material assurance and reduce costs and radiation exposures.
- o The Safeguards and Security program has been and will be the key deterrent in preventing major incidents (i.e., theft, sabotage, terrorist activity, etc.) across the complex at 16 domestic weapons sites.

## **PROGRAM MISSION - NUCLEAR SAFEGUARDS AND SECURITY (Cont'd)**

### **SIGNIFICANT ACCOMPLISHMENTS AND PROGRAM SHIFTS (Cont'd):**

- o Enhanced training technology applications and applied a broader range of technologies to Departmental training, i.e., expanded use of interactive television, mobile training team, and televideo conferences to provide requisite training for a larger number of students without funding increases.
- o The Declassification program has played a key role in implementing the Department's Openness Initiative by maximizing public access to Departmental information while protecting our national security posture, thus rebuilding the public's trust in the Department of Energy.
- o The DOE Information Assurance program continues support in deterring major incidents involving the energy information infrastructure by formalizing a technology sharing initiative.

**Nuclear Safeguards and Security**  
**Program Funding Profile**  
(Dollars in Thousands)

	FY 1997 Current <u>Appropriation</u>	FY 1998 Original <u>Appropriation</u>	FY 1998 <u>Adjustments</u>	FY 1998 Current <u>Appropriation</u>	FY 1999 <u>Request</u>
Safeguards and Security Operational Support	\$22,716	\$21,730	\$ 0	\$21,730	\$27,730
Technology and Systems Development	22,238	23,620	0	23,620	23,620
Classification/Declassification	<u>2,254</u>	<u>1,850</u>	<u>0</u>	<u>1,850</u>	<u>1,850</u>
TOTAL, Nuclear Safeguards and Security	<u>\$47,208</u>	<u>\$47,200</u>	<u>\$ 0</u>	<u>\$47,200</u>	<u>\$53,200</u>

Public Law Authorizations

P.L. 83-703, "Atomic Energy Act of 1954"

P.L. 95-242, "Nuclear Non-Proliferation Act of 1978"

P.L. 103.62, "Government Performance and Results Act of 1993"

## **NUCLEAR SAFEGUARDS AND SECURITY**

### **SAFEGUARDS AND SECURITY OPERATIONAL SUPPORT**

(Dollars in Thousands)

#### **I. Mission Supporting Goals and Objectives**

Safeguards and Security Operational Support provides essential technical and analytical expertise to ensure effective and efficient security; a protective force for Headquarters operations; reviews which ensure cost-saving measures in safeguards and security throughout the Department; standardized training responsive to the challenges of the changing post-cold war era; and office automation modernization geared to a more responsive and efficient operation. This support provides for the overall improvement of safeguards and security activities.

Subprogram activities in this section of the budget include the following:

- o Central Training Academy (CTA) is the Center of Excellence for safeguards and security training and training development. CTA uses both traditional and distance learning technologies to provide onsite and facility training for safeguards and security personnel ensuring that DOE maintains a well-trained workforce to protect the nation's vital nuclear and energy interests against espionage, sabotage or theft. CTA assesses safeguards and security field training needs and site training program performance and develops training courses to meet those needs. Distance Learning Training includes satellite transmission of CTA training to multiple DOE sites and, through the use of modern interactive technology, allows each student to be part of the instructional process. Computer-based training, interactive audio/video training and correspondence courses are also provided.
- o Information Security provides support in the areas of classified matter protection and control, technical security, information systems security (information assurance), operation security, and foreign ownership, control or influence. Technical Surveillance Countermeasures (TSCM) ensures and enhances the security provided for DOE facilities in the greater Washington, D.C., area. The Information Security Resource Center (ISRC) incorporates technical expertise and professional development of training and issues related to information security, it provides information security research and development capability, specialized training as needed, and coordinates each information security discipline into an integrated, cohesive single program.

## **I. Mission Supporting Goals and Objectives - SAFEGUARDS AND SECURITY OPERATIONAL SUPPORT (Cont'd)**

- o Security Education Briefing and Awareness provides support for Security Education Briefing and Awareness to reflect changing policies and procedures. Coordinates and participates in security education workshops and meetings for the exchange of resources and dissemination of security education information and assists contractors in establishing supporting briefing materials.
- o Headquarters Guard Contract provides security for the protection of Government property, classified matter, and personnel at headquarters buildings.
- o Personnel Security evaluates, reviews, and develops guidance and documents for use in evaluating the Personnel Security Assurance Program (PSAP) as it relates to medical, psychological, legal, security, and management components. Researches and prepares technical documents to support the Personnel Security activities. Provides technical assistance and operational support to the Personnel Security program manager to determine current status of science and technology in the component areas.
- o Additional Support provides Headquarters and field elements with support to implement cost-saving safeguards and security measures. Support includes technical assessments, vulnerability assessment support, technical and engineering assistance, surveys, performance testing, technical background on policy issues, administrative and technical guidance in the development of computer security policy for systems possessing national security interest data (unclassified and classified), and the security alarm system at Headquarters. The Safeguards and Security Information Management System (SSIMS) tracks and reports classified safeguards and security issues from all DOE field sites.

Supports activities in DOE to meet requirements levied by the President's Commission on Critical Infrastructure Security as delineated in the Presidential Decision Directive on countering terrorism and the Executive Order 13010 on Critical Infrastructure Protection. Will provide support to assess vulnerabilities and threats to key assets owned or operated by DOE including power systems, petroleum reserves, nuclear facilities, and other assets; guidance on methods to detect, prevent, halt, or confine an attack to critical infrastructures, and on methods to recover and restore service; and training and education on methods of reducing vulnerabilities and responding to attacks on critical infrastructures. Conduct after-action analysis to determine possible future threats targets or methods of attack.

Provides support to DOE Headquarters to eliminate/mitigate vulnerabilities identified in 1995 Department of Justice report, "Vulnerability Assessment of Federal Facilities."

II. Funding Schedule:

<u>Program Activity</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>\$ Change</u>	<u>% Change</u>
Central Training Academy (CTA)	\$ 8,463	\$ 7,813	\$ 7,813	\$ 0	0
Information Security	1,152	1,152	1,152	0	0
Security Education Briefing and Awareness	181	181	181	0	0
Headquarters Guard Contract	8,500	7,000	7,000	0	0
Personnel Security	485	485	485	0	0
Additional Support	<u>3,935</u>	<u>5,099</u>	<u>11,099</u>	<u>6,000</u>	+ <u>1.18%</u>
Total, Safeguards and Security Operational Support	<u>\$22,716</u>	<u>\$21,730</u>	<u>\$ 27,730</u>	<u>\$6,000</u>	+ <u>28%</u>

### III. Performance Summary - Accomplishments:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
<b>Central Training Academy - Total</b>	<b>8,463</b>	<b>7,813</b>	<b>7,813</b>
<ul style="list-style-type: none"> <li>In <b>FY 1997</b>, we conducted 124 courses 180 classroom iterations, providing training for a community of approximately 5,000 protective force members to ensure adequate protection of nuclear materials, classified information, and nuclear facilities. In <b>FY 1998</b>, continue emphasis on “On-line Training;” therefore being able to offer approximately 118 courses with 176 classroom iterations. These courses will cover key S&amp;S program areas (i.e., information security, material control and accountability, etc.) for approximately 5,000 protective force members. In <b>FY 1999</b>, support level of effort in the number of courses and iterations, focusing on protection of SNM and vital national assets. Training emphasis will be on technical and mandatory courses in lieu of general interest.</li> </ul>	8,400	7,750	7,750
<ul style="list-style-type: none"> <li>In <b>FY 1997</b> and <b>FY 1998</b> provide funding to support the CTA’s equipment-related needs such as LAN servers, copy machine, and limited distance learning equipment such as a distance learning remote control TV camera. In <b>FY 1999</b> provide for equipment such as replacement color copier, classroom video upgrades, and closed captioned interactive TV.</li> </ul>	63	63	63

### III. Performance Summary - Accomplishments: (Cont'd)

#### Information Security

FY 1977

FY 1998

FY 1999

1,152

1,152

1,152

- The Information Security Resource Center (ISRC), in **FY 1997** and **FY 1998**, continues to mature the Department's information assurance capabilities, threat awareness, and implementation guidance. Assist in an aggressive approach to the growing issue of unauthorized disclosures and compromises of classified information caused, in part, due to the proliferation of communication modes, i.e., the Internet. Support the Department's goal of developing improved, effective and efficient security policies consistent with national standards and sound risk management principles. In **FY 1999**, the ISRC will continue to assist with the implementation of the Department's information assurance and protection of the critical infrastructure initiatives and related activities to help ensure that threats and vulnerabilities are identified regarding DOE distributed information, telecommunications, system control and data acquisition systems, and the information contained or transmitted over these systems. This effort includes education and awareness activities through tools such as advisory notices, information visualization technologies, and interagency coordination. Technical resources will be applied to security problems involving information security; facility surveys and approvals; foreign ownership, control or influence; and related activities. Will provide technical assistance on special issues impacting DOE's security programs, and assist in establishing cost effective, performance-based security requirements and defensive countermeasures.

### III. Performance Summary - Accomplishments: (Cont'd)

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
<b>Security Education Briefing and Awareness</b>	181	181	181
<ul style="list-style-type: none"> <li>In <b>FY 1997</b> and <b>FY 1998</b>, through education programs, provide security awareness through out the DOE complex. In <b>FY 1999</b>, support security awareness and education through information exchange by planning and conducting a Security Education Special Interest Group (SE/SIG) workshop, providing adjunct faculty for the presentation of the Security Awareness Coordinator Course, and maintaining the SE/SIG electronic bulletin board. These efforts promote standardization while reducing expenses. Security awareness for DOE, provided through education programs, will have primary focus at Headquarters.</li> </ul>			
<b>Headquarters Guard Contract</b>	8,500	7,000	7,000
<ul style="list-style-type: none"> <li><b>FY 1997</b> provided support for the protective force contract ensuring that a sound protection program is offered to Headquarters employees and facilities.</li> <li><b>FY 1998</b> is the first year to realize the full impact of the building consolidation and strategic plan, based on the Secretary's Openness Initiative and review of the Strategic Alignment Initiative, for forecasted reduction and downsizing. This will permit the protective force contract to be executed at a lower level of cost. Cost savings resulting from this lower level of funding were redirected to higher priority program needs. This redirected funding will support the requirements levied on DOE by the President's Commission on Critical Infrastructure Security as outlined in the Presidential Decision Directive on countering terrorism and the Executive Order on Critical Infrastructure Protection which is discussed under Additional Support activities. In <b>FY 1999</b>, provide support for the protective force contract at the FY 1998 level, ensuring protection of Headquarters employees and facilities.</li> </ul>			

### III. Performance Summary - Accomplishments: (Cont'd)

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
<b>Personnel Security</b>	485	485	485
<ul style="list-style-type: none"> <li>In <b>FY 1997</b> and <b>FY 1998</b>, maintain operation of the Center for Human Reliability Studies (CHRS) which provides support for personnel security activities through guidance and product development; expert technical advice and assistance; updating and revising of personnel security materials; and as technical liaison with Department of Defense Personnel Security Research Center (PERSEREC), Department of Defense Security Institute, Department of Defense Polygraph Institute, and other similar agencies and institutions. In <b>FY 1999</b>, provide ongoing support for CHRS, including the upgrade and maintenance of the Personnel Security Assurance Program (PSAP) electronic bulletin board, and evaluation and modification of PSAP training material as needed.</li> </ul>			
<b>Additional Support - Total</b>	<b>3,935</b>	<b>5,099</b>	<b>11,099</b>
<ul style="list-style-type: none"> <li>In <b>FY 1997</b>, performed line item construction project reviews and technical assessments, ensuring continued resource optimization in the DOE complex; assist field sites in treaty inspection/vulnerability assessments; and streamline the Site S&amp;S Plan/Master S&amp;S Agreement (SSSP/MSSA) verification/validation process. Revise, update, and consolidate S&amp;S orders and policy and develop training and field assistance guidance that will cost effectively meet Departmental goals and objectives. Maintain the support for these efforts in <b>FY 1998</b>, providing other technical assistance and engineering assistance to field sites in the implementation of safeguards and security measures. In <b>FY 1999</b>, perform line item construction project reviews and technical assessments; validate and verify vulnerability assessments and SSSP's; and conduct technical analysis of nuclear weapons and materials facilities SSSP submissions. Design, develop, and manage the OSS Outreach Program's Internet presence.</li> </ul>	2,050	2,000	2,000

### III. Performance Summary - Accomplishments: (Cont'd)

FY 1997

FY 1998

FY 1999

#### **Additional Support (Cont'd)**

- In **FY 1997**, provided modifications to Headquarters alarm system; integrated the Headquarters badging system and access control system with other Headquarters personnel data bases; and maintained the Headquarters protective force radio system at a 90% operational level. In **FY 1998**, provide engineering support, minor enhancements, and modifications to Headquarters alarm and automated access control systems; and maintain the Headquarters protective force radio system at a 90% operational level. In **FY 1999**, provide engineering support; minor enhancements; and modification to Headquarters alarm and automated access control systems, prioritized for corrective maintenance, system modification and preventive maintenance. Support the Headquarters protective force radio system maintenance at the 90% operational level. 803 803 803
- In **FY 1997**, provided support for S&S Information Management System (SSIMS) activities by maintaining a data base information system detailing facility findings, ratings and general operational status; assisted in technical performance review of system software; provided training support for data base users; and provided additional system and development support as requested. In addition to maintaining this support in **FY 1998**, implement a revision that will enhance reporting and trend analysis capabilities. In **FY 1999**, maintain SSIMS support which includes support for the data base information system; system software review; computer software and hardware, including upgrades to existing system; and training support for data base users and document and course material update. 300 300 300

### III. Performance Summary - Accomplishments: (Cont'd)

FY 1997

FY 1998

FY 1999

#### **Additional Support (Cont'd)**

- In **FY 1998**, initiate activities in DOE in support of requirements levied by the President's Commission on Critical Infrastructure Security as delineated in the Presidential Decision Directive on countering terrorism and the Executive Order 13010 on Critical Infrastructure Protection. Provide support to assess vulnerabilities and threats to key assets owned or operated by DOE including power systems, petroleum reserves, nuclear facilities, and other assets. Provide guidance on methods to detect, prevent, halt, or confine an attack to critical infrastructures, and on methods to recover and restore service. Provide training and education on methods of reducing vulnerabilities and responding to attacks on critical infrastructures. Conduct after action analysis to determine possible future threats targets or methods of attack. In **FY 1999**, provide capability to respond to increasing requirements associated with unique or nontraditional incidents. Continue technical training and certification in vulnerability identification, reduction, and attack response. Improve Information Assurance Worldwide Web Server, increasing security-related software, tools, documents, and bulletins. Formalize a technology sharing initiative to include an outreach program for commercial power industry and other critical infrastructures, providing technology to others in need of these capabilities but unable to develop them.

0

1,500

1,500

III. Performance Summary - Accomplishments: (Cont'd)

FY 1997

FY 1998

FY 1999

**Additional Support (Cont'd)**

- In **FY 1999**, provide accelerated development of computer security enhancements for information assurance. Develop and deploy a capability to advise and assist processing facilities under siege with the ability to identify and pursue unauthorized intruders in the Department's networks. Develop improvements in the versatility and the level of protection provided by firewalls. Prototype firewall concepts that permit user functionality while preserving the soundness of the firewall concept. Develop a trusted technique for a singular, verifiable identification technique to allow user to perform one unique sign-on requirement. Prototype a multilevel secure network excluding the use of trusted operating systems, but using other available technology such as controlled interfaces and walls. 0 0 1,000
- In **FY 1997** provided support to Headquarters for capitalized computer equipment requirements and modification and/or replacement of parts to the Headquarters alarm and access control system. In **FY 1998** maintain support to Headquarters for computer requirements and modify/replace parts to critical, mission-essential, subsystems of the alarm and access control system on a priority basis. General building alarm and access control subsystems will be maintained at a reduced level of effort. In **FY 1999**, initiate work to begin alarm system replacement and installation of vehicle barrier systems at Headquarters sites in order to eliminate/mitigate vulnerabilities identified in the Department of Justice report on "Vulnerability Assessment of Federal Facilities." Continue support for Headquarters computer requirements and to the existing security alarm and access control systems until the new alarm system has been installed and tested. 782 496 5,496

**NUCLEAR SAFEGUARDS AND SECURITY  
OPERATIONAL SUPPORT**

EXPLANATION OF FUNDING CHANGES FROM FY 1998 TO FY 1999

**Additional Support:**

Accelerate development of computer security enhancements for information assurance and begin alarm system replacement and installation of vehicle barrier systems at Headquarters to comply with Department of Justice Report on "Vulnerability Assessment of Federal Facilities."	\$+6,000,000
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Total Funding Change, Operational Support	<hr/> \$+6,000,000
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**NUCLEAR SAFEGUARDS AND SECURITY**  
**TECHNOLOGY AND SYSTEMS DEVELOPMENT**  
(Dollars in Thousands)

I. Mission Supporting Goals and Objectives

The Technology and Systems Development program's mission is to develop new or modify existing technologies to protect DOE facilities, nuclear materials and national security interest information from existing and evolving threats such as insiders and terrorists. The program is formulated to address documented user requirements within the DOE complex and to meet Headquarters policy needs. The program will be able to address approximately 47% of these documented user needs.

The Technology and Systems Development program is divided into the following subprograms:

- o Science and Technology Development Projects includes all activities ranging from basic research to full scale development and site implementation of a technology or system that will address a safeguards and security deficiency.
- o Technology Application and Transfer Projects includes activities necessary to modify a proven technology for safeguards and security applications.
- o Technology Support, Assistance, and Consultation Tasks includes technical training, technical support to Headquarters, technical workshops and seminars, and technical support and assistance to the DOE complex.

Each subprogram is concentrated in the following disciplines:

- o Physical Security: Activities are focused in detection; access control; control and display; assessment; barrier/delay; and personnel subsystems.
- o Material Control and Accountability: Efforts are focused in nuclear material measurements; material accounting; material control; training; and statistical methods.
- o Information Security: Projects are focused on advice and assessment; education and awareness; incident response; tools and technology; and integration and assurance.

II. Funding Schedule <u>Program Activity</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>\$ Change</u>	<u>% Change</u>
Science and Technology Development Projects	\$17,558	\$17,975	\$18,877	\$ +902	+5%
Technology Application and Transfer Projects	1,410	2,523	1,417	-1,106	-44%
Technology Support, Assistance and Consultation	<u>3,270</u>	<u>3,122</u>	<u>3,326</u>	<u>+204</u>	<u>+7%</u>
Total, Technology and Systems Development	<u>\$22,238</u>	<u>\$23,620</u>	<u>\$ 23,620</u>	<u>\$ ____ 0</u>	<u>__ 0</u>

#### **Crosswalk of Disciplines**

Physical Security	\$ 8,369	\$ 7,419	\$ 8,318	\$+899	+12%
Material Control and Accountability	10,514	10,296	9,796	-500	-5%
Information Security	<u>3,355</u>	<u>5,905</u>	<u>5,506</u>	<u>-399</u>	<u>-7%</u>
Total	\$22,238	\$23,620	\$23,620	\$ 0	0

### III. Performance Summary - Accomplishments:

FY 1997

FY 1998

FY 1999

#### **TECHNOLOGY DEVELOPMENT PROGRAM**

##### **Physical Security (Total)**

**8,369**

**7,419**

**8,318**

##### Detection

2,211

1,938

3,320

- Early detection of unauthorized activities at DOE facilities is becoming more critical as terrorist activities rise and the number of disgruntled employees grow as a result of facilities ceasing operations and closing. Effective detection is necessary to prevent the proliferation or sabotage of special nuclear materials. Efforts in **FY 1997** to **FY 1999** will concentrate on the development of robust interior and exterior sensors that are unique to the Department and do not possess commonly known vulnerabilities. In **FY 1999**, a new exterior sensor will be tested and evaluated. This sensor will provide the Department with increased protection and reduced false alarm rates. Explosives detection capabilities will be expanded to include constructing and testing a vehicle portal to detect trace amounts of explosives concealed in packages entering and exiting facilities. A fully operational vehicle portal that automatically detects hidden personnel and contraband will also be implemented throughout the complex. Automated testing procedures for video cameras and interior and exterior sensors are also being developed. These technologies will validate sensor performance to provide increased performance reliability and decrease associated manpower costs with manually testing the sensors. Increases from **FY 1998** to **FY 1999** are a result of an increased focus on developing sophisticated sensors to provide increased security of critical assets through more accurate event detection, reduced vulnerabilities, and decreased false alarm rates. These activities are primarily conducted at Sandia National Laboratories, Albuquerque, NM and Lawrence Livermore National Laboratories, CA.

### III. Performance Summary - Accomplishments: (Cont'd)

FY 1997

FY 1998

FY 1999

#### **Physical Security (Cont'd)**

##### Access Control

1,660

1,774

1,162

- Efforts are focused on providing efficient and transparent access to DOE facilities and assets without jeopardizing security. Activities in **FY 1997** to **FY 1999** include evaluating commercially available access control systems to find low cost, unobtrusive, high volume systems that would meet DOE requirements. Efforts in **FY 1998** will focus on completing the automated access control process. This will be achieved by granting only authorized access to areas via an individual's badge and eliminating the need to transfer clearance information between sites and having guard stations at each post to manually check badges. In **FY 1999**, software updates will begin on ARGUS, the standardized access control system for the Department. These activities are primarily conducted at Lawrence Livermore National Laboratories, Livermore, CA.

### III. Performance Summary - Accomplishments: (Cont'd)

FY 1997

FY 1998

FY 1999

#### Physical Security (Cont'd)

##### Assessment

- This area is focused on providing reliable and timely alarm assessment to ensure security responses are timely and effective. Current video assessment systems can be easily defeated. In **FY 1997** to **FY 1999**, efforts include testing and evaluating commercial video assessment capabilities to provide DOE with increased performance criteria and capabilities to replace obsolete technologies throughout the complex. The capability to remotely assess security alarms will be provided in **FY 1999** to minimize the operational impact to programs due to evaluating false alarms. A commercial source for the intelligent alarm analysis system will be provided so DOE sites can easily procure and implement the system throughout the complex. This system, which can be implemented into existing intrusion detection systems, will provide increased security and reduced false alarm rates. These activities are primarily conducted at Sandia National Laboratory, Albuquerque, NM and Lawrence Livermore National Laboratory, CA.

300

470

470

##### Barrier/Delay

- This area of the program is concerned with developing various technologies that would disable or significantly delay someone attempting to penetrate a security system. Activities in **FY 1997**, **FY 1998**, and **FY 1999** focus on understanding current adversary attack methods and developing advanced access delay capabilities to prevent unauthorized use of an area or object or mitigate the effects from an attack. In **FY 1999**, the latest delay strategies and technologies will be published for DOE and other federal agencies to implement at their respective facilities. High-power acoustics will also be evaluated to determine their feasibility as an access delay alternative. These activities are primarily conducted at Sandia National Laboratory, Albuquerque, NM and Lawrence Livermore National Laboratory, CA.

615

634

795

### III. Performance Summary - Accomplishments: (Cont'd)

FY 1997

FY 1998

FY 1999

#### **Physical Security (Cont'd)**

##### Integrated Systems

- The integration of security system components provides enhanced security because each component can analyze the output of another component and respond accordingly. Efforts include developing alternative communication techniques rather than current hard-wired systems which are expensive to install and maintain. A risk management tool for chemical/biological agents will be developed to optimize the protection to DOE facilities and assets. Advanced technologies to prevent the theft of special nuclear materials that are shielded/hidden within packages entering/existing DOE facilities will be developed. Advanced generic designs will be developed to safely place special nuclear materials in long-term storage as facilities are decontaminated and decommissioned. New technologies and products will be evaluated to determine their feasibility for reducing the risks, costs, or improving security to the Department. An automated cost/benefit analysis tool will be developed to assess the safeguards and security options and determine the best approach for implementation to meet the changing requirements of the Department. Security systems will be standardized to ensure proper protection of DOE assets and to reduce costs to the Department. Decreased efforts from **FY 1998** to **FY 1999** are a result of a shifting of priorities to increase efforts in detection capabilities. These activities are primarily conducted at Sandia National Laboratories, Albuquerque, NM and Lawrence Livermore National Laboratories, CA.

2,340

1,959

1,783

### III. Performance Summary - Accomplishments: (Cont'd)

FY 1997

FY 1998

FY 1999

#### **Physical Security (Cont'd)**

##### Personnel Subsystems

- Efforts in this area are concentrated on developing technologies and training to aid protective force personnel to more effectively perform their functions. Current developments include development of frangible ammunition which is environmentally safe and reduces operating costs associated with cleaning lead ammunition from practice ranges. An advanced training simulator to provide security personnel with realistic security dispatch applications will be developed. In **FY 1998**, development of field-ready diversionary devices will be completed. The increase from **FY 1998** to **FY 1999** is a result of emphasis on the development of frangible ammunition. These activities are primarily conducted at Lockheed Martin Energy Systems, Oak Ridge, TN.

555

256

400

##### Equipment

- In **FY 1998** and **FY 1999** funding will support physical security equipment such as interior and exterior sensors, electronics, computer software and hardware. This equipment will be used to allow technology development projects to be completed in the physical security areas of detection, access control, access delay, and integrated systems.

688

388

388

### III. Performance Summary - Accomplishments: (Cont'd)

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
<b>Material Control and Accountability (Total)</b>	<b>10,514</b>	<b>10,296</b>	<b>9,796</b>
Measurements	5,007	6,137	5,747
<ul style="list-style-type: none"> <li>Develop instrumentation, standards and systems to measure the Department's special nuclear materials (SNM) inventory. Accurate measurement values are necessary to provide 100% accountability of DOE's assets and to prevent the proliferation of SNM. Efforts will be focused on addressing current measurement deficiencies such as measurement systems for enriched uranium/plutonium in unprocessed hard-to-measure forms, measurements for irradiated fuels, measurements for special nuclear material holdup in equipment and process lines, nondestructive assay standards; portable non-destructive assay systems that can be moved from site to site to avoid major procurement costs at various sites; and waste assay and confirmatory measurement systems. Efforts are increased in <b>FY 1998</b> to develop enhanced measurement capabilities for nuclear smuggling applications. The decrease from <b>FY 1998</b> to <b>FY 1999</b> is a result of completing software that will provide more accurate measurement capabilities and reduced assaying time. These activities are primarily conducted at Los Alamos National Laboratories, NM, Brookhaven National Laboratories, Upton, NY, Lockheed Martin Energy Systems, Oak Ridge, TN, and Lawrence Livermore National Laboratory, Livermore, CA.</li> </ul>			

### III. Performance Summary - Accomplishments: (Cont'd)

FY 1997

FY 1998

FY 1999

#### **Material Control and Accountability (Cont'd)**

##### Material Accountability

- An accurate inventory of all the Department's nuclear materials is essential to ensure that all of the materials are properly protected and accounted for. A standardized material accountability system will be implemented in early **FY 1998** and throughout **FY 1999** to replace legacy systems. This standardized system will save the Department millions since each site will not have to independently develop their own system. It will also be less vulnerable to possible manipulation by an insider. Development is underway so that this database can receive measurement data directly from instruments, rather than having this information entered by a human, possibly causing data entry errors. Automated anomaly detection capabilities will be implemented to detect and respond to suspicious transactions in material accounting databases. These activities are primarily conducted at Savannah River Site, Aiken, SC.

1,200

975

900

##### Material Control

- This area is focused on controlling access to and confirming the presence of special nuclear materials. This is increasingly important as the Department continues to dismantle weapons, decommission and decontaminate its facilities, and place materials in long-term storage. These technologies confirm the presence of materials and extend the requirement to conduct physical inventories, thus reducing operating costs and human intervention with the materials and the possibility of theft or diversion. The decrease from **FY 1998** to **FY 1999** is the completion of a system that will provide confirmation of special nuclear materials in long-term storage by providing security personnel with weight, isotopic, and other attribute information on a continuous basis. These activities are primarily conducted at Los Alamos National Laboratories, and Lockheed Martin Energy Systems, Oak Ridge, TN.

850

1,025

570

### III. Performance Summary - Accomplishments: (Cont'd)

FY 1997

FY 1998

FY 1999

#### **Material Control and Accountability (Cont'd)**

##### Training

- Develop and conduct advanced technical material control and accountability (MC&A) training seminars to preserve MC&A competency and control over nuclear materials in all DOE facilities. Proper training is required to ensure materials are properly measured, protected, and accounted for. In **FY 1999**, advanced technical training will be provided to teach newly development measurement techniques for difficult-to-measure materials. Lack of technical training could aid in the theft of materials or environmental hazards to the Department. Training activities are primarily conducted at Los Alamos National Laboratories.

875

800

850

##### Integrated Systems

- Develop integrated safeguards systems that provide the Department with comprehensive security at reduced lifecycle costs. In **FY 1997** through **FY 1999**, activities include testing, evaluating, and providing feedback to commercial vendors on their products to ensure that DOE needs are being addressed and state-of-the art equipment is available. Technical support and transfer of safeguards technologies to DOE facilities, other federal agencies, and foreign countries will also be provided. In **FY 1998**, a personnel and material monitoring system that will automatically monitor the location of personnel and confirm that nuclear materials have not been altered or removed will be completed. In **FY 1999**, technical solutions will be developed to minimize the impacts on safeguarding DOE assets as DOE decontaminates and decommissions facilities and to mitigate the potential diversion of information through environmental sampling from foreign nations. These activities are primarily conducted at Los Alamos National Laboratory, Los Alamos, NM and Sandia National Laboratories, Albuquerque, NM.

1,850

995

1,365

### III. Performance Summary - Accomplishments: (Cont'd)

FY 1997

FY 1998

FY 1999

#### **Material Control and Accountability (Cont'd)**

##### Equipment

732

364

364

- In **FY 1998** and **FY 1999** funding will support the purchase of electronics, computer software and hardware, and measurement instrumentation. This equipment will be used in developing and integrating material control and accountability technologies to ensure the Department's special nuclear materials are accurately measured, fully accounted for, and properly protected.

### III. Performance Summary - Accomplishments: (Cont'd)

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
<b>Information Security (Total)</b>	<b>3,355</b>	<b>5,905</b>	<b>5,506</b>
Tools and Technology			
<ul style="list-style-type: none"> <li>Develop tools and technologies oriented toward protecting the DOE information infrastructure from attacks that involve hacking, sabotage, and technological espionage. <b>FY 1997</b> and <b>FY 1998</b> activities will focus on developing and updating tools and technologies to detect intrusions or other unauthorized activities on computer networks, and providing automated assessment and response components. In <b>FY 1999</b>, efforts will concentrate on implementing these technologies throughout the complex. A standard approach for testing and evaluating the security of computer systems throughout the Department to ensure systems are comprehensively evaluated for potential vulnerabilities and prevent the duplication of efforts by designing such an approach at each site will be provided in <b>FY 1999</b>. In <b>FY 1999</b>, an up-to-date database of computer system vulnerabilities for computer security personnel will be provided so they can determine the type and severity of systems vulnerabilities and improve the security of their systems. An independent simulation module that supports the broadest range of information threats and threat mitigation technologies will also be developed. This tool will aid the Department in selecting security architecture and developing policy targeted at specific operational needs. These activities are primarily conducted at Los Alamos National Laboratories, Lockheed Martin Energy Systems, Oak Ridge, TN, and Lawrence Livermore National Laboratory, Livermore, CA.</li> </ul>	1,945	1,900	1,800

### III. Performance Summary - Accomplishments: (Cont'd)

FY 1997

FY 1998

FY 1999

#### **Information Security (Cont'd)**

##### Integration and Assurance

- Finalize and distribute a system that is able to detect indications of an intrusion or attack on a computer network, and to initiate the appropriate set of automated responses in order to halt, eject, or further evaluate the threat. This system will significantly improve the protection of the DOE information infrastructure via automatically detecting potential problems and responding to them prior to incurring any damage on a computer network. Efforts are increased in **FY 1998** in order to complete the automated information system described above. In **FY 1999**, activities are focused on the implementation and evaluation of this system at facilities throughout the complex. These activities are primarily conducted at Los Alamos National Laboratories, Los Alamos, NM, Sandia National Laboratory, Albuquerque, NM, and Lawrence Livermore National Laboratory, Livermore, CA.

250

2,800

2,500

##### Advice and Assistance

- Develop and provide a structured process that can be applied to evaluate the design or implementation of computers and computer networks as defined by DOE Order 5639.1A and DOE Order 471.2 to implement national security policy requirements to review classified computer systems. This will provide the Department with improved site information systems protection programs at reduced computer security costs by leveraging existing penetration testing resources. These activities are primarily conducted at Los Alamos National Laboratories, Los Alamos, NM.

250

300

301

### III. Performance Summary - Accomplishments: (Cont'd)

FY 1997

FY 1998

FY 1999

#### **Information Security (Cont'd)**

##### Education and Awareness

- Develop and conduct training courses for DOE personnel and contractors on latest computer technologies and the changing threats and vulnerabilities with computer systems. Up-to-date training is essential to ensuring that DOE sites are aware of current technologies and vulnerabilities and to provide the Department with the best mechanism to protect its information assets. Training activities are primarily performed at Lockheed Martin Energy System, Oak Ridge, TN.

275

270

270

##### Incident Response

- The computer incident advisory capability (CIAC) is an effective force for computer incident handling and prevention in the DOE community. CIAC is responsible for providing the Department with timely computer security information and continuous response to DOE computer security incidents such as network-based intrusions, virus attacks, and suspicious activities on computer networks. CIAC also provides computer security awareness, training, and workshops. The CIAC team is located at Livermore National Laboratory, Livermore, CA.

450

450

450

##### Equipment

- In **FY 1998** and **FY 1999**, funding supports computer software and hardware, including upgrades to existing systems, that will ensure that the latest computer technology available is incorporated into technology development projects aimed at protecting the Department's information assets.

185

185

185

**NUCLEAR SAFEGUARDS AND SECURITY  
TECHNOLOGY AND SYSTEMS DEVELOPMENT**

EXPLANATION OF FUNDING CHANGES FROM FY 1998 TO FY 1999:

<b><u>Physical Security:</u></b>	\$+899,000
Increased emphasis on detection technology for sensor development.	
<b><u>Material Control and Accountability:</u></b>	-500,000
Completed project in material control that provides confirmation of SNM in long-term storage.	
<b><u>Information Security:</u></b>	- <u>399,000</u>
Reflects completed development of automated information system that will detect an intrusion/attack on computer networks and initiate appropriate defense response.	
Total Funding Change, Technology and Systems Development	\$        0

## NUCLEAR SAFEGUARDS AND SECURITY

### CLASSIFICATION/DECLASSIFICATION

(Dollars in Thousands)

#### I. Mission Supporting Goals and Objectives

The majority of the Classification/Declassification program is now funded in the Nonproliferation and National Security Program Direction budget. The portion of the Classification/Declassification program funded here is primarily provided by Management and Operating (M&O) contractors in the field in support of the ongoing base program as well as support of the declassification initiative. The ongoing base classification program includes the routine review and development of classification guidance. The declassification initiative includes the accelerated review of technical classification guidance to implement fundamental review recommendations and development of advanced technologies to improve the efficiency and productivity of the document declassification review process.

#### II. Funding Schedule:

<u>Program Activity</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>\$ Change</u>	<u>% Change</u>
Classification/Declassification	\$ <u>2,254</u>	\$ <u>1,850</u>	\$ <u>1,850</u>	<u>0</u>	\$ <u>0</u>
Total, Classification/ Declassification	\$ <u>2,254</u>	\$ <u>1,850</u>	\$ <u>1,850</u>	<u>0</u>	\$ <u>0</u>

### III. Performance Summary - Accomplishments:

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
<b>Classification/Declassification - Total</b>	<b>\$2,254</b>	<b>\$1,850</b>	<b>\$1,850</b>
<ul style="list-style-type: none"> <li>In <b>FY 1997</b>, completed interagency coordination and initiated the multiyear effort to develop specific classification guidance to implement those fundamental review recommendations approved by the Secretary. In <b>FY 1998</b>, continue effort to develop specific classification guidance to implement those fundamental review recommendations approved by the Secretary. Anticipated partial completion of this effort has allowed for the redirection of funding from the Declassification programmatic funding to the Nonproliferation and National Security Program Direction decision unit/support service contract to provide support for the continued review and update of technical classification guidance. In <b>FY 1999</b>, continue the implementation of specific fundamental review recommendations through modification of the majority of classification guides, utilizing the consistent page-change method only. This work is primarily performed at the Los Alamos National Laboratory and Sandia National Laboratories, Albuquerque, NM, and the Lawrence Livermore National Laboratory, CA.</li> </ul>	1,479	1,225	1,225
<ul style="list-style-type: none"> <li>In <b>FY 1997</b> developed advanced automation which supports the Declassification Productivity Initiative (DPI). In <b>FY 1998</b>, integrate developed prototype declassification technology into a single system, test and evaluate system, and refine and enhance DPI system to improve the productivity and accuracy of the declassification process. In <b>FY 1999</b>, begin limited conversion and integration of tested and evaluated DPI system. Provide limited expansion of the electronic document declassification system, limited installation of document conversion technology, and begin initial testing of the text analysis processor. This work is primarily performed at the Los Alamos National Laboratory and Sandia National Laboratories, Albuquerque, NM, and the Lawrence Livermore National Laboratory, CA.</li> </ul>	775	625	625

## NUCLEAR SAFEGUARDS AND SECURITY

### CAPITAL OPERATING AND CONSTRUCTION SUMMARY

(Dollars in Thousands)

Capital Operating Expenses	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>\$ Change</u>	<u>% Change</u>
Capital Equipment (total)	\$ 2,450	\$ 1,496	\$ 6,496	\$+5,000	+3.34%

DEPARTMENT OF ENERGY  
FY 1999 CONGRESSIONAL BUDGET REQUEST  
NONPROLIFERATION AND NATIONAL SECURITY  
OTHER DEFENSE ACTIVITIES  
(Tabular dollars in thousands, Narrative in whole dollars)

SECURITY INVESTIGATIONS

PROGRAM MISSION

The Security Investigations Program funds background investigations for all DOE federal staff and all Headquarters contractors, who, in the performance of their official duties, require access authorizations for Restricted Data, National Security Information, or special nuclear material. User programs will fund field office requests for background investigations for contractors and non-federal employees who are not included in the Security Investigations Program budget.

The GOAL of the Security Investigations Program is to:

Support the common defense and security of the United States by ensuring that only appropriate personnel are authorized access to classified information, special nuclear material, or occupy sensitive positions.

The OBJECTIVES related to this goal are:

1. Reduce the types and numbers of access authorizations, consistent with DOE mission changes, the downsizing of the nuclear weapons complex, and other classified programs and activities.
2. Ensure the timely and efficient processing and adjudication of initial access authorization requests and reinvestigations.
3. Support development and implementation of an electronic network among DOE field offices, DOE contractors, the Office of Personnel Management (OPM) and other Federal agencies to reduce the overall access authorization processing time.

#### PERFORMANCE MEASURES:

1. Conduct approximately 20,925 personnel security investigations and reinvestigations.
2. Reduce the numbers and levels of access authorizations as the programmatic need for them diminishes.

#### SIGNIFICANT PROGRAM SHIFTS:

The FY 1998 appropriation for this program was \$30 million - paid through a single decision unit: Security Investigations.

In order to encourage further reductions in the number of security clearances, the cost of investigations requested by the field offices for all contractors and non-federal employees will be allocated to four user programs in FY 1999. The cost of investigations for all federal employees (DOE-wide) and Headquarters requirements will continue to be allocated to the Security Investigations Program.

# SECURITY INVESTIGATIONS

## PROGRAM FUNDING PROFILE

(Dollars in thousands)

<u>Sub-program</u>	FY 1997 Current <u>Appropriation</u>	FY 1998 Original <u>Appropriation</u>	FY 1998 <u>Adjustments</u>	FY 1998 Current <u>Appropriation</u>	FY 1999 <u>Request</u>
Security Investigations	\$ 20,000	\$ 30,000	\$ 0	\$ 30,000	\$ 30,000
	_____	_____	_____	_____	_____
Subtotal, Security Investigations	\$20,000	\$ 30,000	\$ 0	\$30,000	\$ 30,000
Off-sets from Program Organizations	_____	_____	_____	_____	- <u>20,000</u>
TOTAL, SECURITY INVESTIGATIONS	<u>\$ 20,000</u>	<u>\$ 30,000</u>	<u>\$ 0</u>	<u>\$ 30,000</u>	<u>\$ 10,000</u>

### Public Law Authorizations:

Public Law 83-703, "Atomic Energy Act of 1954"

SECURITY INVESTIGATIONS  
(Dollars in thousands)  
PROGRAM FUNDING BY SITE

	FY 1997 Current <u>Appropriation</u>	FY 1998 Original <u>Appropriation</u>	FY 1998 <u>Adjustments</u>	FY 1998 Current <u>Appropriation</u>	FY 1999 Budget <u>Request</u>
Field Offices/Sites					
Albuquerque Operations Office	\$ 6,282	\$ 13,195	\$ 0	\$13,195	\$ 9,013
Chicago Operations Office	186	365	0	365	409
Idaho Operations Office	366	384	0	384	498
Nevada Operations Office	869	1,275	0	1,275	506
Oak Ridge Operations Office	1,731	2,000	0	2,000	3,083
Oak Ridge Inst. Of Sci. & Eng.	250	250	0	250	300
Pittsburgh Naval Reactors Office	1,054	1,000	0	1,000	1,002
Rocky Flats Field Office	805	0	0	0	0
Richland Operations Office	487	671	0	671	826
Oakland Operations Office	2,325	3,750	0	3,750	2,386
Lawrence Livermore National Lab.	1,560	0	0	0	0
Savannah River Operations Office	1,368	1,300	0	1,300	2,241
Schenectady Naval Reactors Office	486	421	0	421	436
Washington Headquarters	<u>2,231</u>	<u>5,389</u>	<u>0</u>	<u>5,389</u>	<u>9,300</u>
Subtotal	20,000	30,000	0	30,000	30,000
Off-sets from Program Organizations	_____	_____	_____	_____	<u>-20,000</u>
Total	<u>\$20,000</u>	<u>\$30,000</u>	<u>\$ 0</u>	<u>\$30,000</u>	<u>\$10,000</u>

**SECURITY INVESTIGATIONS**  
(Tabular dollars in thousands, narrative in whole dollars)

**I. Mission Supporting Goals and Objectives:**

The Security Investigations Program funds background investigations for DOE federal staff and Headquarters contractors who, in the performance of their official duties, require access authorizations for Restricted Data, National Security Information, or special nuclear material.

**II. Funding Schedule:**

Program Activity	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>\$ Change</u>	<u>% Change</u>
Federal Bureau of Investigation Background Investigations	\$ 49	\$ 49	\$ 49	\$ 0	0%
Office of Personnel Management Initial Background Investigations					
Single Scope Background	6,750	4,879	4,830	-49	-1.0%
Initial Background	116	110	110	0	0%
Limited Background	598	0	0	0	0%
Reinvestigations					
Periodic Reinvestigation - SBI	6,109	20,297	20,150	-147	-0.7%
Limited Background	1,150	1,429	1,516	+87	+6.0%
National Agency Checks	773	576	635	+59	+10.2%
Related Security Investigations Activities	<u>4,455</u>	<u>2,660</u>	<u>2,710</u>	<u>+50</u>	+1.9%
Subtotal, Security Investigations	20,000	30,000	30,000	0	0%

II. Funding Schedule (Continued):

Program Activity	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>\$ Change</u>	<u>% Change</u>
Off-sets from Program Organizations	<u>0</u>	<u>0</u>	<u>-20,000</u>	<u>-20,000</u>	100%
TOTAL, SECURITY INVESTIGATIONS	<u>\$20,000</u>	<u>\$30,000</u>	<u>\$10,000</u>	<u>\$-20,000</u>	<u>-66.7%</u>

## SECURITY INVESTIGATIONS

### III. Performance Summary-Accomplishments:

<u>Security Investigations</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
<ul style="list-style-type: none"> <li>Conduct up to 9 initial Federal Bureau of Investigation (FBI) background investigations and reimburse FBI for finger print card and name checks.</li> </ul>	\$ 49	\$ 49	\$ 49
<ul style="list-style-type: none"> <li>Conducted approximately 17,600 personnel security investigations in FY 1997. Anticipate 20,484 investigations in FY 1998, and 20,925 in FY 1999.</li> </ul>			
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>- 1,797 initial personnel security clearance investigations conducted during FY 1997. Anticipate 1,623 cases to be conducted in FY 1998, and 1,607 in FY 1999.</li> </ul> </li> </ul>	7,464	4,990	4,940
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>- 5,217 reinvestigations were conducted in FY 1997. Approximately 13,848 cases will be completed in FY 1998, and 13,800 in FY 1999.</li> </ul> </li> </ul>	7,259	21,725	21,666
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>- 10,586 National Agency Checks (NAC's) were performed in FY 1997. Plan to support 5,013 NAC's in FY 1998, and 5,518 in FY 1999.</li> </ul> </li> </ul>	773	576	635
<ul style="list-style-type: none"> <li>Continue to reduce the numbers and levels of clearances in excess of those necessary to support the current DOE mission.</li> </ul>			

### III. Performance Summary-Accomplishment Continued):

<u>Security Investigations</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
<ul style="list-style-type: none"> <li>During FY 1997 the backlog of initial and reinvestigation clearances reached approximately 6,050 cases, with a similar increase expected by the end of FY 1998. In FY 1999 the backlog may increase depending on the availability of programmatic funds from outlay programs and probable OPM investigation charge increases.</li> <li>Related Security Investigation Activities: <ul style="list-style-type: none"> <li>- The Electronic Transfer program is operational throughout DOE. Test, deploy and support the DOE Integrated Safeguards and Security (DISS) personnel security data bases in conjunction with the electronic clearance process and enhanced transmission security protocols. Enhance the Electronic Transfer program to support additional functionality and security features. Funding in FY 1999 and beyond is required to maintain, coordinate, and manage the Electronic Transfer Program, and DISS at Headquarters.</li> <li>- Continue to support Accelerated Access Authorization Program (AAP).</li> <li>- Provide support for miscellaneous costs involved in maintaining a viable personnel security program.</li> </ul> </li> </ul>	3,120	2,000	2,000
	600	400	400
	735	260	310
Subtotal, Security Investigations	20,000	30,000	30,000
Off-sets from Program Organizations	0	0	-20,000
<b>TOTAL, Security Investigations</b>	<u><b>\$20,000</b></u>	<u><b>\$30,000</b></u>	<u><b>\$10,000</b></u>

## SECURITY INVESTIGATIONS

### EXPLANATION OF FUNDING CHANGES FROM FY 1998 TO FY 1999

- Four program offices to pay for all contractors and non-federal security clearances at the field offices. -\$20,000

### MAJOR ISSUES:

- In order to reduce the number of security clearances, the FY 1999 Budget is based on allocating the costs for contractor clearances to user programs.

-Headquarters and field programs, finance and budget offices will need to establish a mechanism to track program accountability.

**DEPARTMENT OF ENERGY**  
**FY1999 CONGRESSIONAL BUDGET REQUEST**  
**OTHER DEFENSE ACTIVITIES**  
**(Tabular dollars in thousands, Narrative in whole dollars)**

**EMERGENCY MANAGEMENT**

**PROGRAM MISSION**

The Office of Emergency Management serves as the point of contact and control for all Departmental emergency management and threat assessment related activities and ensures an integrated response to emergencies affecting Departmental operations and activities or requiring Departmental assistance. The principal mission of the Office is to provide comprehensive, integrated emergency planning, preparedness, and response programs throughout the Department and to provide threat assessment support to the Department's Headquarter and field operations. The Office operates the Headquarters Emergency Operations Center, Communications Center and the Department emergency communications network; develops and operates reliable capabilities to detect and assess developing emergency situations and threats; provides rapid credibility assessment of nuclear threats and potential smuggling activities; responds to emergencies; and issues all policy and guidance for the Department's emergency programs. This program also operates the HAZMAT Spill Center, which supports the formulation of emergency management policy for hazardous materials and conducts research in partnership with government and industry.

The GOAL of the Emergency Management Program is to:

Support the National Security of the United States by ensuring an integrated Departmental response to all emergencies and assessing the credibility of threats and smuggling activities.

The OBJECTIVES related to this goal are:

1. Maintain national security and ensure protection of workers, the public, and environment.
2. Execute an integrated Departmental program in support of other U.S. Government agencies for combating terrorism and supporting crisis and consequence management to any terrorist act.

## **PROGRAM MISSION - EMERGENCY MANAGEMENT (Cont'd)**

3. Maintain the capability to provide technical advice and assistance to Departmental elements for cost effective implementation of emergency management programs.
4. Develop, maintain, and promulgate policy; planning and preparedness guidance; and readiness assurance activities.
5. Assess threats to DOE personnel, operations and facilities from foreign and domestic adversaries and provide timely reports.
6. Assess the credibility of nuclear threats received worldwide as well as support efforts for the prevention of illicit nuclear materials trafficking.
7. Operate and maintain the Headquarters Emergency Operations Center, Communications Center and the Department's emergency communications network.
8. Provide program management for operations of the HAZMAT Spill Center program.
9. Maintain emergency programs to minimize adverse impacts of energy supply disruptions on national security, public safety and the energy infrastructure.
10. Assess the vulnerabilities of the Nation's energy supply systems.
11. Promote the Department's emergency policy interests in international fora.
12. Support deployment and operational capabilities of nuclear and chemical dispersal models for emergency planning, preparedness and response.

#### PERFORMANCE MEASURES:

1. Conduct twelve (12) emergency management system training and technical assistance workshops.
2. Conduct three (3) technical threat awareness and two (2) weapons of mass destruction training courses.
3. Conduct six (6) emergency management system technical assistance visits/appraisals.
4. Support/conduct ten (10) Department-wide drills and exercises.
5. Conduct thirty five (35) weeks of testing at the HAZMAT Spill Center.
6. Provide situation assessments within one (1) hour after identification of a potential emergency.
7. Conduct emergency assessment conferences for Federal, state, tribal and industry groups.
8. Support the increased role and visibility of the Department as a leader in the formulation of National Security related policies for combating terrorism and nuclear materials trafficking.
9. Conduct thirty (30) threat assessments.

#### SIGNIFICANT ACCOMPLISHMENTS AND PROGRAM SHIFTS:

- Conducted emergency management system appraisals, training and assistance workshops, and Department-wide drills and exercises.
- Improved operation of DOE's emergency management system and emergency facilities through technical assistance.
- Increased customer involvement in planning, preparedness, and readiness assurance activities.
- Improved collaborative efforts with Federal, state, tribal and industry entities to prepare for and respond to emergencies.

#### SIGNIFICANT ACCOMPLISHMENTS AND PROGRAM SHIFTS (Cont'd):

- Provided situation reports and assessments for developing emergencies.
- Provided an annual report on illicit nuclear material transactions.
- Improved support to other U.S. Government agencies in combating nuclear terrorism and crisis and consequence management to any terrorist act.
- Continued leadership role of the Department in the formulation of national security related policies for nuclear materials trafficking.
- Provided assessments of threats to DOE facilities and interests and collaborated with the FBI's National Center for the Analysis of Violent Crime for joint information and data sharing.
- Provided training to Counter Terrorism Community on national security activities involving weapons of mass destruction.
- Provide rapid credibility assessment of any nuclear threats involving nuclear weapons, devices or materials, and supported rapid credibility assessment of potential nuclear weapons or materials smuggling activities.
- Conduct Threat Awareness seminars for DOE, industry, law enforcement, and Intelligence Community.
- Provide, through the Atmospheric Release Advisory Capability Program, plume modeling and dispersion for radioactive material and chemical agent releases to the atmosphere.
- Built upon and leverage extensive DOE capabilities and assets to ensure effective emergency response to counter terrorism.
- Expand the Headquarters emergency operations center voice, data, and video connection to include additional DOE sites, National Laboratories, Public Health Service, FBI Headquarters, Centers for Disease Control, and other Federal agencies.

EMERGENCY MANAGEMENT  
PROGRAM FUNDING PROFILE  
(Dollars in Thousands)

<u>Sub-program</u>	<u>FY 1997 Current Appro.</u>	<u>FY 1998 Original Appro.</u>	<u>FY 1998 Adjustments</u>	<u>FY 1998 Current Appro.</u>	<u>FY 1999 Budget Request</u>
Emergency Management Operating Expenses	\$ 16,794 1/	\$ 20,000	\$0	\$ 20,000	\$23,700
TOTAL, Emergency Management	<u>\$ 16,794 1/</u>	<u>\$ 20,000</u>	<u>\$ -</u>	<u>\$ 20,000</u>	<u>\$23,700</u>

1/ Does not include Threat Assessment funding in Intelligence (\$3.3M) and Communications Center funding in Human Resources and Administration (\$1.1M).

EMERGENCY MANAGEMENT  
CAPITAL OPERATING EXPENSES AND CONSTRUCTION SUMMARY  
(Dollars in Thousands)

Capital Operating Expenses	<b>FY 1997</b>	<b>FY 1998</b>	<b>FY 1999</b>	<b>\$CHANGE</b>	<b>%CHANGE</b>
Facilities Operations	<u>\$ 1,500</u>	<u>\$ 1,500</u>	<u>\$ 1,600</u>	<u>\$100</u>	<u>7%</u>
TOTAL, Emergency Management	<u><u>\$ 1,500</u></u>	<u><u>\$ 1,500</u></u>	<u><u>\$ 1,600</u></u>	<u><u>\$100</u></u>	<u><u>7%</u></u>

EMERGENCY MANAGEMENT  
PROGRAM FUNDING BY SITE  
(Dollars in Thousands)

<b><u>Laboratory and Facility Funding</u></b>	<b><u>FY 1997 Current Appro.</u></b>	<b><u>FY 1998 Original Appro.</u></b>	<b><u>FY 1998 Adjustments</u></b>	<b><u>FY 1998 Current Appro.</u></b>	<b><u>FY 1999 Budget Request</u></b>
Chicago Operations Office	\$ -				\$ -
Argonne National Lab	\$ 140	\$ -	\$ -	\$ -	\$ 100
Brookhaven National Lab	\$ 250	\$ 250	\$ -	\$ 250	\$ 300
Oakland Operations Office					
Lawrence Livermore National Lab	\$ 850	\$ 850	\$ -	\$ 850	\$ 1,450
Idaho Operations Office					
Idaho National Engineering Lab	\$ 200	\$ 50	\$ -	\$ 50	\$ 100
Albuquerque Operations Office					
Los Alamos National Lab	\$ 80	\$ 80	\$ -	\$ 80	\$ 100
Sandia National Labs	\$ 250	\$ -	\$ -	\$ -	\$ 100
Nevada Operations Office	\$ 7,305	\$ 9,040	\$ -	\$ 9,040	\$ 11,040
Richland Operations Office	\$ 50	\$ 50		\$ 50	\$ 50
Pacific Northwest Lab	\$ 430	\$ 300	\$ -	\$ 300	\$ 300
Oak Ridge Operations Office	\$ 1,615	\$ 2,320	\$ -	\$ 2,320	\$ 2,500
Washington Headquarters	\$ 5,624	\$ 7,060	\$ -	\$ 7,060	\$ 7,660
Subtotal	<u>\$ 16,794</u>	<u>\$ 20,000</u>	<u>\$ -</u>	<u>\$ 20,000</u>	<u>\$ 23,700</u>
Adjustment	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
 TOTAL	 <u>\$ 16,794</u>	 <u>\$ 20,000</u>	 <u>\$ -</u>	 <u>\$ 20,000</u>	 <u>\$ 23,700</u>

1/ Does not Include Threat Assessment funding in Intelligence (\$3.3M) and Communications Center funding in Human Resources and Administration (\$1.1M).

## **EMERGENCY MANAGEMENT**

### **(Dollars in Thousands)**

#### **I. Mission Supporting Goals and Objectives**

The Office develops and implements specific programs, plans and systems to minimize the impact of emergencies on national security, worker and public safety, and the environment. The Office provides overall coordination and consultation regarding the Department's Emergency Management System, including emergency assistance and mobilization in response to energy emergencies, radiological and non-radiological hazardous materials events, malevolent threats and nuclear materials smuggling. The Office promulgates Departmental requirements and implementing guidance, and conducts readiness assurance activities to ensure an effective emergency management system is in place at Departmental facilities. The Office also coordinates inter-agency and intra-Departmental emergency planning, preparedness and exercises, and coordinates with state and local governments, international agencies, foreign governments, and industry on emergency planning, preparedness and exercise issues.

Another mission area is to identify and assess hostile threats to Departmental facilities, interests and personnel, assess the credibility of nuclear threats received world-wide, and support U.S. Government and allied nations efforts for the prevention of illicit nuclear materials trafficking worldwide. The Office operates and maintains Headquarters 24-hour per day emergency operations facilities and communications center for the collection and processing of information relative to emergency notifications and reporting and support of emergency management activities at the Headquarters level and implements a security program for the protection of Office information, equipment, and facilities.

To effectively implement its mission, the Office develops and maintains capabilities to efficiently integrate and coordinate a Departmental response to all emergencies. The Office provides liaison and coordination regarding operational emergency response activities, and monitors potential disruptions to national and international energy supply and distribution networks and infrastructures, providing appropriate situation reports and assessments as part of a coordinated Departmental emergency or pre-emergency response. Additionally, the HAZMAT Spill Center provides the DOE community, other governmental agencies, and private sector customers with a unique training, testing, and technical center for hazardous materials research relating to emergency management.

The Department's Headquarter Emergency Operations Center, 24-hour per day Operations Center Watch Office function, Communications Center and emergency communication network are supported by a support service contract. The FY 99 planning level for this support is \$2.3 million.

These activities are in support of the Atomic Energy Act of 1954, as amended, Presidential Decision Directive 39, Executive Orders 12656 and 12919, the Defense Production Act of 1950 as amended, Presidential Review Directive 47, and environment related regulations including the Resource Conservation and Recovery Act, Superfund Amendments and Reauthorization Act of 1986, Comprehensive Environmental Response Compensation and Liability Act, and Clean Air Act Amendments of 1990.

II. Funding Schedule:

Program Activity	FY1997	FY1998	FY1999	\$ Change	% Change
-----	-----	-----	-----	-----	-----
Emergency Management	<sup>1/</sup> \$12,894	\$16,500	\$19,900	\$3,400	21%
HAZMAT Spill Center (Formerly Liquified Gaseous Fuels Spill Test Facility)	1,600	1,500	1,500	0	0
Emergency Operations Support Service Contract	2,300	2,000	2,300	300	15%
Total, Emergency Management	<sup>1/</sup> \$16,794	\$20,000	\$23,700	\$3,700	19%
	=====	=====	=====	=====	=====

1/ Does not include Threat Assessment funding in Intelligence and Communications Center funding in Human Resources and Administration.

III. <u>Performance Summary-Accomplishments</u>	<u>FY97</u>	<u>FY98</u>	<u>FY99</u>
- Expand nation-wide voice, data, and video link-up of DOE Operations Offices and select National Laboratory emergency operation centers to include additional laboratories, DOE sites, and selected Federal agencies. Operate the 24-hour Watch Office and Communications Center.	6,000	6,600	7,100
- Conduct planning, training and readiness assurance activities to ensure effective implementation of the Department's emergency management system. Provide emergency management, assessment, and threat awareness training, and assistance workshops to Departmental elements, Federal, state, local, and tribal governments, and international community. Develop new training to meet specific needs.	3,700	3,300	3,900
- Conduct technical assistance visits to assist Departmental elements in determining program weaknesses and cost effective means for making improvements. Evaluate tests and exercises of Departmental programs to demonstrate effective emergency response. Write after-action reports with findings and recommendations for all emergency situations and exercises involving Office of Emergency Management staff and ensure follow-up of appropriate corrective actions to enhance the emergency management system.	2,100	1,900	2,000
- Respond to natural and man-made disasters as they occur to provide damage assessments and technical assistance to state and local governments and industry in restoration of essential energy services and consequence management. Prepare situation reports on emergencies and energy problems for senior Departmental officials.	1,194	1,100	1,200

<u>Performance Summary-Accomplishments Cont'd</u>	<u>FY97</u>	<u>FY98</u>	<u>FY99</u>
- Continue to operate the communicated threat assessment program to provide a national capability to assess the credibility of radiological and extortion threats. Continue to strengthen the analytical data base.	0	3,100	4,000
- Provide support to increase the role and visibility of the Department as a leader in the formulation of national security related policies for nuclear materials trafficking and enhance the nuclear materials trafficking hotline. In support of U.S. Government agencies, maintain data on the flow and composition of nuclear smuggling focusing on the quality of smuggled material, the source of the material, and the intended use of the smuggled material. Enhance operational capability for response to situations to obtain samples of intercepted materials.	400	700	900
- Strengthen and expand the Department's support for crisis and consequence management in combating terrorism and nuclear material trafficking. Initiate a program in support of interagency and Departmental exercises to ensure adequate and comprehensive response to counter terrorism.	1,200	1,200	1,900
- Expand and integrate the Atmospheric Release Advisory Capability (ARAC) plume modeling for chemical and hazardous materials releases.	600	600	1,200
- Continue user-sponsored spill tests for both government and industry at the HAZMAT Spill Center; provide spill test results to Departmental elements, other government agencies, industry and the general public for use in hazards mitigation and emergency responder training programs.	1,600	1,500	1,500
Total Emergency Management	<sup>1/</sup> \$16,794	\$20,000	\$23,700

<sup>1/</sup> Does not include Threat Assessment funding in Intelligence and Communications Center funding in Human Resources and Administration.

## EMERGENCY MANAGEMENT

### **EXPLANATION OF FUNDING CHANGES FROM FY1998 TO FY1999**

In FY 1998, the Office of Emergency Management was funded at \$20 million which was \$1.19 million less than the comparable funding for FY 1997. As a result, reductions were made to a number of activities to ensure adequate funding for the Communications Center transferred from Human Resources and Administration to the Office of Emergency Management. The additional \$3.7 million requested for FY 1999 will fund the following activities:

- o **Communication Center** : (+300) Funding will ensure that all communication center operations, functions and systems to include 24 hour contractor support are fully funded.
- o **Exercise Program**: (+800) Funding will support interagency and Departmental exercises to ensure adequate and comprehensive response programs to counter nuclear material trafficking and terrorism are in place and to promote synergism among the various Federal agencies and the international community responsible for responding to such situations.
- o **Nuclear Smuggling**: (+2,000) Presidential Decision Directive 39 (US Policy on Counterterrorism) and 41 (MPC&A and Nuclear Smuggling) mandate a national effort to reduce the danger of nuclear smuggling and the associated potential for nuclear terrorism. Additional funding will be used to expand the Communicated Threat Assessment program to provide an enhanced national capability to assess illicit trafficking in nuclear materials. New funding will be used to analyze, monitor, track, and record all illicit nuclear materials trafficking incidents. Funds will also support illicit material trafficking training programs, both domestically and internationally, to ensure that first responders and the law enforcement community receive appropriate training in recognizing and countering illicit nuclear material trafficking.
- o **Atmospheric Release Advisory Capability**: (+600) This modelling capability will be expanded to include development of plume models for chemicals used in significant quantities at DOE facilities.

DEPARTMENT OF ENERGY  
FY 1999 CONGRESSIONAL BUDGET REQUEST  
OTHER DEFENSE ACTIVITIES  
(Tabular dollars in thousands, Narrative in whole dollars)

NONPROLIFERATION AND NATIONAL SECURITY PROGRAM DIRECTION

I. Mission Supporting Goals/Ongoing Responsibilities:

The Nonproliferation and National Security (NN) program direction budget provides for all Federal personnel required at DOE Headquarters, and two field offices to carry out the program's mission in a cost effective and efficient manner. It provides salaries and benefits, travel, support service contracts, and other related expenses associated with the overall management, direction, and administration of the following programs:

Verification and Control Technology

- Nonproliferation and Verification Research and Development
- Arms Control and Nonproliferation
- Intelligence

Nuclear Safeguards and Security

Security Investigations

Emergency Management

Salaries and Benefits provide for NN Federal compensation including overtime, awards, lump sum leave payments, transit subsidy, contributions to employee benefits, and associated escalation.

Travel funds that are required to carry out program mission while away from official duty stations, per diem allowances as well as local travel are carried in this decision unit. Travel is an essential part of staff duties in order to conduct hands-on operations both domestically and internationally, participate in highly technical agency and interagency committees, and to ensure appropriate Government representation in policy meetings.

I. Mission Supporting Goals/Ongoing Responsibilities: (continued)

Support services contracts funding is included in this decision unit. These contracts support Federal staff at Headquarters and in the field. These contracts provide technical, analytical, administrative, and operational support in multiple program areas such as safeguards and security, declassification and classification; intelligence activities; emergency management; threat assessment; research and development, and arms control. The daily operation and associated technical direction of the contracts remain with Federal program managers in each organization.

Other Related Expenses include the working capital fund (space, utilities, general printing, graphics, copying, supplies, telephones, etc.), general office automation support, operation and maintenance of equipment, and other miscellaneous services.

II. Funding Table:

	<u>FY 1997 Current Appropriation</u>	<u>FY 1998 Original Appropriation</u>	<u>FY 1998 Adjustments</u>	<u>FY 1998 Current Appropriation</u>	<u>FY 1999 Request</u>
<u>Chicago</u>					
Salary and Benefits	\$3,571	\$3,803	\$0	\$3,803	\$3,894
Travel	185	150	0	150	150
Support Services	0	0	0	0	0
Other Related Expenses	1,549	1,551	0	1,551	1,593
Total	<u>\$5,305</u>	<u>\$5,504</u>	<u>\$0</u>	<u>\$5,504</u>	<u>\$5,637</u>
Full Time Equivalents	54	62		62	61
<u>Nevada</u>					
Salary and Benefits	\$568	\$682	\$0	\$682	\$621
Travel	56	46	0	46	46
Support Services	525	352	0	352	400
Other Related Expenses	4	4	0	4	4
Total	<u>\$1,153</u>	<u>\$1,084</u>	<u>\$0</u>	<u>\$1,084</u>	<u>\$1,071</u>
Full Time Equivalents	7	8		8	7

II. Funding Table: (continued)

	<u>FY 1997 Current Appropriation</u>	<u>FY 1998 Original Appropriation</u>	<u>FY 1998 Adjustments</u>	<u>FY 1998 Current Appropriation</u>	<u>FY 1999 Request</u>
<u>Headquarters</u>					
Salary and Benefits	\$37,671 a/	36,825	\$0	\$36,825	\$36,806
Travel	2,459	2,004	0	2,004	2,004
Support Services	27,249	21,975	0	21,975	26,614
Other Related Expenses	14,285	15,508	0	15,508	16,768
Total	<u>\$81,664</u>	<u>\$76,312</u>	<u>\$0</u>	<u>\$76,312</u>	<u>\$82,192</u>
Full Time Equivalents	358	340		340	327
 <u>Total Nonproliferation and National Security</u>					
Salary and Benefits	\$41,810	\$41,310	\$0	\$41,310	\$41,321
Travel	2,700	2,200	0	2,200	2,200
Support Services	27,774	22,327	0	22,327	27,014
Other Related Expenses	15,838	17,063	0	17,063	18,365
Total	<u>88,122</u>	<u>82,900</u>	<u>0</u>	<u>82,900</u>	<u>88,900</u>
Full Time Equivalents	419	410		410	395

a/

The Office of Hearings and Appeals Defense-related salary and benefit costs were carried in NN's Program Direction account in Fiscal Year 1997. In Fiscal Year 1998 and beyond, the Office of Hearings and Appeals is funded in a separate account within the Other Defense Activities appropriation.

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
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### III. Performance Summary:

#### **Salaries & Benefits:**

Headquarters federal staffing is driven by specific functional responsibilities as well as management and direction requirements.

NN Headquarters.....	37,671	36,825	36,806
NN Field.....	4,139	4,485	4,515

NN is the focal point within the Department for activities that support the President's nonproliferation policy, goals and objectives, and activities which assist other Departmental and field elements achieve their missions. Staff directs and manages multiple technology and research and development tasks. NN staff serves as the Headquarters operational element for activities such as emergency management, security; declassification and classification operations; and energy intelligence direct support to policy officials. It develops department wide policy and plans for national security programs such as safeguards and security, declassification and classification. NN is directly responsible for management of the New Brunswick National Laboratory, the Central Training Academy in Albuquerque, New Mexico, and the HAZMAT Spills Test Facility at the Nevada Test Site.

Total Salary and Benefits	41,810	41,310	41,321
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#### **Travel:**

Includes domestic and foreign trips necessary to conduct non-proliferation and national security business. International travel is necessary due to the continuous work with Former Soviet Union republics. Domestic travel includes national security assistance and interface with field offices, laboratories and local governments. Nonproliferation issues and program interface also require domestic travel.

	2,700	2,200	2,200
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### III. Performance Summary: (continued)

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
<b>Support Services:</b>			
Provides an invaluable resource of highly specialized and analytical expertise required to meet critical nonproliferation and national security issues. NN programs use contractor services to support declassification objectives while ensuring that national security is not jeopardized through inadvertent release of classified nuclear related design information; ensure implementation of cost-saving safeguards and security measures, provide technical, analytical and support expertise essential to a balanced safeguards and security program capable of addressing technology advancements and the dynamic changing environment associated with weapons returns, arms control, and nonproliferation; ensure that NN can meet the objectives of the materials protection, control and accounting programs; provide technical assistance appraisals, emergency response tests and exercises, counter terrorism expertise and readiness assurance activities; provide technical support to the Counterintelligence and Special Technologies program; provide technical analyses and support of future proliferation detection and treaty verification; and review and assess technology and program status. A detailed description of support services is included on the "Support Services" schedule.	27,774	22,327	27,014
<b>Other Related Expenses:</b>			
Includes Headquarters space, utilities, general printing, graphics, copying, supplies, telephones, general automation support, payroll outsourcing, postage, and other miscellaneous expenses associated with office operations. Similar support is provided to the Federally staffed New Brunswick Laboratory.	15,838	17,063	18,365
Total Program Direction	<u>88,122</u>	<u>82,900</u>	<u>88,900</u>

#### IV. Explanation of Funding Changes from FY 1998 to FY 1999:

Net increase of \$11,000 in Salaries and Benefits reflects an increase for escalation and a decrease in FTE funding in order to comply with the Strategic Alignment Initiative. + \$11,000

Increase of \$4,687,000 in Support Services includes an increase of \$4,597,000 in Technical Support and an increase of \$90,000 in Management Support Services. This increase will restore to FY 1997 level of effort consistent with programmatic requirements that are being met in FY 1998 through use of prior year balances that will not be available in FY 1999. + \$4,687,000

Increase of \$1,302,000 in Other Related Expenses to fund an increase in the Working Capital Fund of approximately 3.1% in rental rates in FY 1999, increases in rental space that occurred in FY 1998 (other than the Communication Center), anticipated increases in space to alleviate unhealthy conditions, and small increases in the other categories of expenses budgeted for in this line. + \$1,302,000

Total + \$6,000,000

**Nonproliferation and National Security  
Support Services  
(\$000)**

**FY 1997      FY 1998      FY 1999      FY 1998/FY 1999  
CHANGES**

<b>Technical Support Services</b>	23,608	18,978	23,575	4,597
Arms Control and Nonproliferation - technical analysis, reviews, and assessments; Verification Research and Development - analysis of program progress, future technical options and technical liaison; Intelligence - technical research, analysis, coordination and assistance, and research and analysis of foreign intelligence threats; Safeguards and Security - technical analysis for identification and resolution of security concerns in technical areas such as physical, technical information, computers, operational security, and material control and accountability; provide technical support to Headquarters operations; evaluate security hardware and assist in preparation of comprehensive facility security plans; Declassification and Classification - document reviews, technical declassification reviews, technical advice in development of DOE declassifier/classifier education and certification program, technical assistance in improving efficiency, productivity and cost effectiveness for document declassification reviews; Emergency Management - technical support to exercises, evaluations and appraisals, and technical support to the threat assessment program.				

**Nonproliferation and National Security  
Support Services  
(\$000)**

**FY 1997      FY 1998      FY 1999      FY 1998/FY 1999  
CHANGES**

<b>Management Support Services</b>	4,166	3,349	3,439	90
Analysis, mailroom operations, administrative support, automation support, Sensitive Compartmented Information Facility support, access, management, Sensitive Compartmented Information indoctrination briefings, and general support, as appropriate for declassification, verification research and development, intelligence, arms control and nonproliferation, security, and resource management activities.				
<b>Total Support Services</b>	27,774	22,327	27,014	4,687

## NONPROLIFERATION AND NATIONAL SECURITY

<b>Other Related Expenses</b>	<b>FY 1997 (\$000)</b>	<b>FY 1998 (\$000)</b>	<b>FY 1999 (\$000)</b>	<b>FY 1999/1998 Change (\$000)</b>
Rental Payments to GSA	4,809	6,009	6,956	947
Communications, utilities, and miscellaneous charges	260	260	268	8
Printing and Reproduction	983	845	699	(146)
Other Services (e.g., training, subscriptions, timeshare services, GPO printing, ADP maintenance, LAN hookups, software, miscellaneous expenses)	3,983	4,197	4,351	154
Operation and maintenance of equipment	3,210	3,210	3,411	201
Supplies and materials	549	498	580	82
Equipment	2,044	2,044	2,100	56
Total Other Related Expenses	15,838	17,063	18,365	1,302
Working Capital Fund (non-add)	(5,772)	(6,869)	(7,865)	(996)